

# THE LIVING AGE.

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No. 772.—12 March, 1859.—Third Series, No. 50.

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JOHN F. OBERLIN, PASTOR OF THE BAN  
DE LA ROCHE.

## PART I.

## THE BAN, AND THOSE WHO DWELT THERE.

ABOUT an hour before daybreak, on the morning of the 24th of August, 1572, the young king of France, Charles IX., accompanied by the Queen-mother, Catherine de Medici, and the Duke of Anjou, left his private apartments—where during the whole night he had been in close conference with the Guises and other chiefs of the Roman Catholic nobility—and ascended to an open balcony of the Louvre, which commanded a view of the streets around. All was hushed in silence. The city slept below them. No sound broke the stillness save the footfall of the sentinels as they paced their rounds, or the murmur of the river which at intervals came floating by upon the night wind. Not a word was spoken by the party as they sat. Some solemn mystery seemed to have chained their utterance. The queen-mother watched the king, with compressed lips and a calm, determined air. In Charles's bosom a dreadful struggle was evidently going on, for a livid paleness overspread his countenance, as he repeatedly rose from his seat and looked toward the east, or stooped to listen as if in expectation of hearing some signal from the street below, while at the same time his frame trembled, and the perspiration stood like beads upon his forehead.

The hour passed away. The east began to redden with the dawn of the Sabbath. The great bell of St. Germain l'Auxerrois tolled out the call to matins, and thus announced the day of St. Bartholomew. The sound of the bell had scarcely ceased, when the city, so lately lapped in darkness and silence, seemed filled with the glare of torches and the hum of assembling multitudes. The drums beat to arms; and the royal troops, mingled with crowds of armed citizens, poured into the streets, and surrounded the houses of both rich and poor who were either known or suspected to profess or favor Protestant opinions. The dwellings of the Huguenot leaders were first assaulted, and Admiral Coligny, Francis de la Rochefoucault, Beauvais, and several other distinguished persons—who had been induced to come to Paris by the king to witness the marriage of his sister Margaret—were almost simultaneously assassinated. The Dukes of Montpensier, Aumale, and

Marshall Tavannes, aided by several ecclesiastics, led on the now infuriated mob with cries of "Slay the Huguenots!" "Kill the heretics!" "The game is ensnared!" "The king desires every man of them to be destroyed;" a statement which Charles himself testified to be true by firing from the balcony upon the unhappy creatures who were fleeing from their murderers, and by hallooing on his soldiery with cries of "Kill! kill!" Never did the sun rise on such a scene of blood as it shone upon on that Sabbath morning. The streets of Paris were literally washed with the gore of those whose only crime was attachment to the Word of God. The innocence of childhood and the white hairs of age were alike disregarded in the carnage. Persons of both sexes and of every age and condition were murdered without mercy. The infant was stabbed on the breast of the mother; the sick, the sleeping, parent and child, servant and master, were indiscriminately slaughtered. The massacre continued for several days, during which time, according to Perefex, more than twenty seigneurs de marque, twelve hundred gentlemen, and from three to four thousand tradesmen and servants, were savagely butchered.

Not satisfied with having drenched his capital with the blood of his subjects, the king issued commands to the governors of the provinces to hunt down and exterminate the Huguenots within their reach. The mandate was willingly obeyed; and in Bourges, in Lyons, in Toulouse, in Orleans, and in several other places, the horrors of the metropolis were re-enacted. These appalling transactions struck terror to the hearts of such of the reformers as had escaped the slaughter. Some of them fled to Rochelle and Sancerre which they fortified. Others escaped to England, to Switzerland, to Germany, to the fastnesses of the Vosges, and of other ranges of mountains near the basin of the Rhine, and not a few of them, we believe, sought shelter from persecution and freedom to worship God in the wild, sterile district called the Ban de la Roche.

The "Ban," or district, derives its name from the neighboring castle of La Roche. The Germans call the Ban "Steinthal," or the valley of stone. Formerly it was part of the province of Alsace, in the north-east of France, and is situated on the western slope of the Champ de Feu, an isolated range of mountains

of volcanic origin—as the name implies—separated by a deep valley from the eastern chain of the Vosges. The Ban contains only two parishes—one called Rothau; the other comprises the hamlets of Waldbach, Zolbach, Belmont, Bellefosse, and Foudai, inhabited almost exclusively by Lutherans. Waldbach, which lies nearly in the centre of these hamlets, is about eighteen hundred feet above the level of the sea; and four hundred feet below Waldbach, on the mountain-side, stands Rothau. The two parishes contain about nine thousand acres, the sterility of which may be judged from the fact, that, even at present, little more than fifteen hundred are capable of cultivation. Here, defended by the mountain torrent and the precipice, did the children of the Reformation expect to enjoy freedom to worship God, but they were disappointed. Wave after wave of persecution broke upon them during the thirty years' war and the reign of Louis XIV., which so desolated the Ban as to render it almost incapable of affording sustenance to any human being. Nevertheless, about eighty or a hundred families, destitute of all the necessities of civilized life, and shut out from intercourse with the inhabitants of the neighboring districts, in consequence of the want of roads, here continued to drag on a most wretched and miserable existence. At length the province of Alsace was united to France, one of the stipulations of the decree of union being that its inhabitants should be permitted to possess that pearl of price, *liberty of conscience*. Whether in this arrangement Louis le Grand was influenced by the numerical strength of the Lutherans in the province, or by his recognition of a claim which is the birthright of every man, we shall not pause to inquire. Suffice it to say, that the decree brought no change to the moral or physical condition of the poor dwellers in the "valley of stone." Persecution had nearly consummated its fiendish work. It is true that some of the forms of religion were preserved among them, that they said they were of the reformed faith; but why or wherefore, in 1750, they scarcely knew. About that period, a devout and earnest clergyman, moved by their wretched state, undertook the charge of the Ban. His name was Stouber. When he entered on his *cure*, he was desirous to know what was the state of education in the district, and, on inquiring for the principal school, to his astonishment

he was conducted to a miserable hovel, in one corner of which lay a helpless old man on a truckle bed, and around him were grouped a crowd of ill-clad, noisy, wild-looking children.

"Are you the schoolmaster, my good friend?" said Stouber to the old man.

"Yes, sir."

"And what do you teach the children?"

"Nothing, sir."

"Nothing! How is that?"

"Because," replied the old man, with genuine naïvete, "I know nothing myself."

"Why, then, were you appointed schoolmaster?"

"Why, sir, I had been taking care of the Waldbach pigs, and when I got too old and infirm for that employment, I was sent here to take care of the children!"

Stouber found the schools of the other villages in a similar condition; and Herr Krafft—whose interesting little work, "*Aus Oberlin's Leben*," we should like to see widely circulated in this country—shows that nothing could be more deplorably wretched than the ignorance of the masters, who, for the most part, were swineherds and shepherds! During the months of summer, they ranged the hills with their flocks, but in winter they were transformed into "dominies," without any qualification for their office, but a most laudable stock of good intentions, which led them to attempt to teach the children what they themselves could not understand; for the language of the Ban is a *patois*, evidently the old dialect of Lorraine; when, therefore, they taught their charge to read a French or German elementary work, or a fragment of a French Bible, they were wholly incapable of explaining the sense or of giving the correct pronunciation!

A man of less ardent piety and determined resolution than M. Stouber would have departed from the Ban in hopeless despair of ever being able to bring about a revolution in the condition of its wretched inhabitants; but he was rich in faith. For fourteen years this accomplished man, aided by his beloved wife, whose remains repose in the churchyard of Waldbach, labored unceasingly to effect the object which lay next his heart, by establishing schools, by circulating as many copies of the Scriptures as his poverty would allow him to obtain, by assiduous pastoral visitation, and by the faithful preaching of the gospel of Christ. Soon after the death of his wife,



Stouber was appointed to the pastorate of St. Thomas', in Strasburg; but before he entered his new sphere of labor, he was anxious to see the Ban provided with a man "like-minded" as himself. He knew this was no easy matter to accomplish, for the difficulties in that isolated place were numerous, while the income was extremely small. The parish had no attractions for the lovers of purple and fine linen—for such as would look more carefully after the *fleece* than the flock. The man who came there, Stouber knew, must make up his mind to "endure hardness" to suffer privation, to be cut off from all intercourse with the educated, and to wholly devote himself to the instruction of the poor and the wretched. Consequently he feared lest he should find it impossible to obtain any one who would be willing to take charge of the parish; and this grieved him the more, as his own health was so completely shattered as to forbid his continuance. He, however, commenced his inquiries. What the issue was we shall show in

## PART II.

IN 1740, at the gymnasium of Strasburg, a man of very considerable classical attainments, named Oberlin, held the office of tutor. Like most of his order "in all places everywhere," he had a small stipend and a large family. His wife was an amiable and accomplished woman. Both were devout followers of the Redeemer, and it was their leading desire to train up their children in the "nurture and admonition of the Lord." They had seven sons and two daughters. Theirs was a joyous household. If you visited Madame Oberlin in the evening of almost any day in the year, you would have found her seated in the midst of her children, correcting their drawings, or reading aloud to them some interesting and instructive book. Thus her evenings were spent, and when the hour for retiring to rest came, there was generally a united request for "one beautiful hymn from dear mamma!" When that mother's voice was no longer heard upon the earth, and the long, green grass grew thick upon her grave, those evening hymns were remembered and their influence felt.

Like Wilberforce, and as every father should be, so tutor Oberlin was the playfellow as well as the instructor of his children. In the vicinity of Strasburg, at a place named

Schiltigheim, he had a few acres of land, and there, once a week, during the summer, the villagers would see him, with an old drum slung across his shoulder, acting as drill sergeant and drummer at the same time to his lads, whom he put through the military evolutions, with which he was well acquainted. One of the boys, John Frederic, in consequence of this "playing at soldiers," became passionately attached to the military profession. Tales and histories of battles were eagerly sought after and as eagerly read by him. The officers of the troops quartered in the city were known to his family, and, being aware of the predilection which he had formed, and astonished at the acquaintance with military science which he displayed, granted his request to be permitted to join the soldiers when at exercise. The glitter and excitement of the parade filled the boy's mind. He, like most of his age, did not interpret the word "soldier." Its import was hidden from him, or his gentle, sensitive nature would have shrunk from it with loathing and disgust. He looked upon the troops, as they marched before him, with their gay clothing, and glistening weapons, and emblazoned banners; he heard their regular tread and thrilling music; but to him it was all *only* a splendid summer-day pageant—he thought not of the cruelty and gore and carnage of the battle-field.

Happily for him, his father destined him for a learned profession. Filial obedience was a pleasure to the lad, so, without a regret, he gave himself to the ardent pursuit of the studies which his father marked out. His brother, the celebrated antiquarian and philologist, Jeremiah James Oberlin, had then acquired considerable distinction at the university, and his success was a stimulant to him. A few years and the curriculum was passed through, and he was now of age to choose a profession. He made choice of the ministry. Dr. Lorentz, an eminent evangelical divine, a short time before he came to this determination, had been preaching in the city. Young Oberlin heard him. The Gospel became more precious than ever, and he resolved to devote himself to its propagation. Soon after, he was admitted to "orders" in the Lutheran Church. But nothing could at that time induce him to undertake the *cure* of souls. Of the work in which he had engaged he had the clearest views. His was not an ambition to *preach*. The responsibilities of

the Christian pastor were set before him, and he sought to prepare himself for their efficient discharge. When pressed to undertake a pastoral charge, his reply was, "I need more experience, more knowledge; at present I am not qualified. Moreover, I wish to labor where I can be useful, not where I can be at ease." The key to his after life is to be found in this reply. Seven years elapsed, during which he diligently employed himself in the study of theology, supporting himself in the mean time by acting as tutor to the family of a distinguished surgeon of Strasburg, in whose house he acquired the knowledge of surgery and the healing art which he afterwards turned to such good in the Ban de la Roche.

Thus he continued teaching and studying until 1776, when the chaplaincy of a French regiment was offered to him. The "old drum" and the military associations of childhood were aroused up from the sleep of years. The chaplaincy, he thought, presented a prospect of extensive usefulness, so he decided to accept it. Accordingly he resigned his tutorship, took lodgings in the city, and commenced a preparatory course of reading.

About this period M. Stouber began his search after a pastor to succeed him in the Ban. Oberlin, whose piety, disinterested benevolence, and scholarly ability, had already won him the esteem of his fellow-citizens, was mentioned to him as exactly such a man as he sought. Stouber came to Strasburg, and sought out Oberlin's lodgings. They were in a mean street; and when he reached the house he was directed to a little room up three pair of stairs. He opened the door, and the first thing that caught his eye was a small bed, covered with curtains made of—*brown paper*! He entered the apartment and approached the bed, and there he found Oberlin, racked with the agony of toothache. After some conversation, during which he rallied him upon the unique character of his bed-hangings and the poverty of his abode, he inquired the use of a little iron pan which he saw suspended above his table. "That," replied Oberlin, "is my kitchen. I am accustomed every day to dine at home with my parents, and they give me a large piece of bread to carry back with me in my pocket. At eight o'clock in the evening I put my bread into that pan; and, having sprinkled it with a little salt and water, I place my lamp beneath it, and go on with my studies until

ten or eleven, when I generally begin to feel hungry, by which time my slice of bread is nicely cooked, and I relish it more than the choicest luxuries."

Stouber was overjoyed while he listened. This was the very man for Steinthal. He declared the object of his visit, portrayed the condition of the people, their misery and ignorance, gave utterance to his own unfeigned sorrow at being obliged to leave them, and his fear, lest he could prevail upon him to occupy his post, that they must perish for lack of knowledge.

Oberlin's heart was touched. The place which Stouber described was just such a one as he had often pictured to himself as the scene of his pastorate. But, then, what could he do? his engagement with the regiment being all but finally concluded. He could not think of accepting charge of the Ban unless he was liberated from the chaplaincy, and, moreover, except there were before him no candidates for clerical preferment who would accept M. Stouber's proposal. These obstacles were soon removed. The chaplaincy was speedily filled; but as the cure among the mountains presented "nor golden guerdon nor days of ease," for it there were no applicants. So Oberlin was free to become the pastor of the Ban de la Roche.

Previously to his departure for his parish, with a woman's foresight his mother saw that the happiness, as well as the usefulness, of her son would be promoted if he were to take wife with him to the isolated and lonely district where he was about to reside. The subject was mentioned to him, but he did not see it in the same light as his parents. He had no attachment, he said; but if they wished him to marry it must be so, but theirs must be the task of selecting his companion. From time immemorial mothers have been match-makers. It is their province as well as their pleasure. All the sympathies of their nature are aroused when a son or daughter has to be "settled," as the phrase is. Whether or not this be the case with mothers in general, it certainly was so with Madame Oberlin, in particular. John Frederic was her favorite, and he was not to be married to "anybody;" and as he had no especial liking for any one, she did not see what harm it would do him if his wife were rich as well as devoted and amiable. Thus she reasoned, but

she did not tell him what her cogitations were. Moreover, she had received a hint from the widow of a rich brewer—such a hint as only a mother can either get or give—that Oberlin was regarded with a gracious eye both by her daughter and herself, and that if he were to propose for the former it was extremely probable that his suit would be favorably received. Madame mentioned this to her son, but he was quite passive. He had no will in the matter, he said, but would do whatever she wished; at the same time he would pray for divine guidance, and would abide the result. From his youth he was accustomed, whenever his judgment was perplexed with any matter, to pray to God to give him some intimation of his will as to the course he should pursue. Some persons have harshly denounced this custom of Oberlin's as "a presumptuous and dangerous practice," but we think it neither one nor the other. If God be the moral governor of the world, the caretaker of all men, but especially of those who confide in him—if, in fine, the word of God be what we believe it is, namely, *one long encouragement to pray* for divine aid, surely, then, to seek that aid at all times, and particularly when in anxiety of mind, cannot be "dangerous," nor to expect a reply to our supplication be rationally deemed "presumptuous."

On this occasion Oberlin besought that God would be pleased to direct him in his choice, and to show him whether this union would be conducive to his usefulness in the ministry. "If," thought he, "the mother proposes the subject when I call upon her, then I shall take it as an indication of providential approbation; if not, I shall consider it my duty to entirely avoid it." Than this resolve nothing could possibly place his character in a clearer light. He wishes his will to accord with God's. He desires to do only what would have the divine sanction. Here there is no mercenary game of profit and loss—no hankering after the wealth of the widow's daughter—no counting of the dowry. He thinks, but his thought is, will this marriage hinder or help me in my ministry? Reader, was not this a true man?

On the day appointed for the first visit, he hastened to the house where the lady dwelt. He was admitted. The mother, who had been apprised of his coming, was waiting to receive him, which she did most courteously. Mademoiselle, her daughter, was called down.

They sat for a few moments, talked of the weather, and then came to a dead pause. They looked at each other—still the pause continued. At length Oberlin rose, retreated towards the door, made his bow, and departed, leaving the widow and her daughter to unravel the meaning of his visit. Thus ended Madame Oberlin's first plan for his "settlement in life."

One or two failures in such matters rarely discomfit a mother; this certainly did not discomfit Madame Oberlin. She wished her son to be happy, and how it was possible for him to be so without a good wife she could not imagine. Most of our fair readers, we opine, will say that in thinking thus she was right, and we confess we are not inclined to disagree with them. But to our history. A former tutor of Oberlin's had a daughter. She was a lady who, under the guise of amiability, nursed an ambitious soul, as the sequel will show. This defect in her character had escaped the observation of Oberlin, and for years she had a place in his esteem. Madame, his mother, being aware of this, suggested the propriety of his proposing to her. He had no objection, neither had the lady, nor had her parents. So far all seemed to go as smoothly as could be desired. A preliminary marriage contract was drawn up, but, *ehou!* a wealthy suitor appeared on the scene. He made the lady an offer of his hand and—*purse*; and the latter being an article of which Oberlin could not boast, she (disinterested creature!) broke with the poor pastor, and accepted her rich admirer. Whether she in her turn, was jilted by the man of cash, we know not, although we suspect as much; for a few weeks after her father intimated his desire to Oberlin that the connection should be renewed. On the receipt of the note, Oberlin at once proceeded to the schoolmaster's residence, and, handing his note back to him, he said, "My dear sir, I am accustomed to follow the intimations of Providence, and I consider what has recently occurred as a warning that a union with your daughter would neither promote her happiness nor mine. Let us, therefore, say no more about it—forget what has passed—and let me, as of old, share in your affection."

Here ended the endeavors of good Madame Oberlin to secure a wife for her son, and so she was obliged to consent to his departure "unwived," which was no slight trial to her.

Nevertheless, he must not go alone. She accompanied him to Waldbach, and after arranging his little establishment, she bade him adieu, leaving with him his younger sister, Sophia, who took charge of his household. Pastor Stouber introduced him to the parishioners; and in April, 1767, in the twenty-seventh year of his age, Oberlin became pastor of the Ban de la Roche. About a year after this event had taken place, a lady of highly cultivated mind and agreeable disposition came to Waldbach on a visit to Sophia. Her name was Madeline, and she was the orphan daughter of Professor Witter of Strasburg. She soon relieved Sophia of her cares as her brother's housekeeper; for, despite of a long-cherished determination never to marry a clergyman, Madeline Witter became the wife of Oberlin. A more judicious choice it was impossible to make. She was the sharer of his trials and his joys. Her prudence and foresight balanced and controlled his enthusiastic disposition; her devoted piety, which led her to fully participate in his anxiety to promote the welfare of his people, cheered him when desponding, and heightened his joy when successful. In fine, she was what every wife should be to an affectionate and virtuous husband, a "helpmate."

#### PART III.

WE approach the testing time—the time of the development of the character of Oberlin. The pastorate, when viewed from the study or the divinity hall, even by the most devoted and intelligent of men, presents a very different aspect to what it does when seen from the centre of its weighty and solemn engagements. The student, although he knows much, and thinks, mayhap, that he knows more of the "cure of souls" than many who are occupied in the work, in reality sees only the husk, the outside. The core lies beyond his "ken." He must become a pastor before he can possibly pronounce a correct judgment upon the trials or the encouragements of those who are engaged in the ministry of the gospel. Moreover, until actually in the harness, the divinity student is incapable of judging of his own fitness for the pastorate. There may be piety—sincere, deep, ardent piety—without which no man can preach "the glorious gospel of the blessed God"—there may be high scholarship, painstaking assiduity, tenderness of heart, and amiability of disposition, and yet the

young man who possesses all these, although capable of filling a chair of philosophy or theology, may utterly fail as a pastor. Numerous cases in point will readily occur to the memory of our readers. We know several ourselves, who, in their own opinion and that of their most discerning friends, were certain to succeed, who, when they closed the first three years (and many at the end of one year) found that they had mistaken their vocation. Those men did not lack the most earnest desire that their fellow-creatures should be brought to a "saving acquaintance" with divine truth—they were, in the highest sense of the word, "earnest" ministers, yet they failed, and, what is more, they knew it, which, unhappily, is not always the case. And this leads us, *en passant*, to notice the fundamental error of an otherwise excellent work, the production of that model pastor, John Angel James; we allude to the "Earnest Ministry the Want of the Times." We believe—and our belief is founded upon a wide induction of facts—that the great defect in the evangelical ministry of the present day is not that which Mr. James mentions. There is abundance of "earnestness," but a deplorable want of "adaptation"—adaptation to the age in which they live, to the country in which they dwell, to the place in which they labor. Earnestness there may be, but unless there be adaptation the ministry will be any thing but what it ought to be—the guide and beacon-light of fallen man.

We say, then, that the testing time had come to Oberlin. He was now a pastor and a husband. His wife, one of the best of women; his flock, wretched, ignorant, scattered—a prey to laziness and hunger—without the merest necessities of life, and contented to remain so. Let us, then, look at what this young man possessed that his hopes should be so strong of turning this wilderness into "a garden of God." What had he?—wealth? No, not a stiver; but he had that which wealth could not, *cannot* purchase—an earnest, devoted, loving heart, a thoughtful and well-disciplined mind, considerable scientific skill and practical ability, a natural and suasive eloquence which at once won its way to the heart, habits of self-denial, of promptitude, of perseverance, and a joyous willingness to endure all things, if by so doing he could promote the glory of God and the good of mankind. That such a man should accom-



plish what he did is to us no marvel. It would have been miraculous, indeed, if he had failed.

When he had gone over the parish, he saw that Stouber's picture of its degraded state was by no means too highly colored, and he felt that all his resources would be taxed if he sought to effect any change for the better. His quick mind at once perceived the connection which existed between their physical misery and their moral degradation, so he immediately began to devise plans to promote their civilization. His first was to bring them into contact with the inhabitants of the neighboring towns, rightly judging that the comfort and cleanliness and intelligence which they would behold in those places would present such a strong contrast to the state of things in the Steinthal as at once to beget a desire in their minds for improvement. But how was he to move? All the roads connected with the parish were literally impassable during the greater portion of the year, in consequence of land-slips which completely blocked them, or their being torn up by the rushing down of the mountain torrents during the winter. The people thus shut in could neither find a market for their produce nor obtain agricultural implements which they required. There was but one way to effect the desired change. He had made a careful survey of the parish, and the result was a determination to open up a communication with the high-road to Strasburg; but to do this it would be necessary to blast the rocks and to construct a solid wall to support a road, which he proposed to carry for about a mile and a half along the banks of a deep mountain-stream called the Bruche, and then, at Rothau, to build a bridge across it. He called his parishioners together, and announced his project. They were astonished. "He was mad," they said. "The thing was utterly impracticable. They had thought for some time that there was something strange about him, but now they were sure he was downright insane." Thus they thought and said, and one and all began to excuse themselves from having any share in what they deemed such a wild and foolish undertaking. But Oberlin pressed the matter upon them, refuted their objections respecting the impossibility of accomplishing his plan, pointed out the manifest and numerous advantages which would result from it, both to themselves and to their children, and

wound up his harangue by shouldering a pick-axe and exclaiming, "Let those who see the importance of what I have stated come and work with me!" The effect was electric. Opposition gave way to cheerful acquiescence and the most unbounded enthusiasm. He appointed to each man a certain task. He soon had more helpers than he could find tools for. The news of his undertaking reached Strasburg, and implements and funds were sent to him. Rocks were undermined and blasted; torrents which had overspread and inundated the meadows were guided into channels which had been cut to receive them; where the land threatened to slip, walls were built to sustain it; the road was completed to Rothau; at that place he threw a neat wooden bridge across the Bruche, which to this day is called Le Pont de Charité. The whole was finished, and a communication opened up with Strasburg in 1770, about a year and a half after his marriage.

Some will ask, how fared it with his duties as a religious teacher all this time? Did he neglect them? No; on the contrary, like the great apostle of the Gentiles—who thought it not beneath him to make tents during the week—Oberlin, who on week-days headed his people in their arduous task, on the Sabbath directed them with equal zeal and earnestness to "the rest which remaineth for the people of God." The immediate effect of the success of his scheme was the gaining of almost unbounded influence over his parishioners. They no longer regarded him as a madman, but as the only wise one among them. They now cheerfully engaged in any work which he devised, and, very soon, convenient and necessary roads traversed the Steinthal, and connected the various villages. While he was tutor in M. Ziegenhagen's family in Strasburg, he became intimately acquainted with botanical science, and acquired not merely that knowledge which enables the empiric to classify and denominate, but he understood the *properties* of almost every plant, and could at once tell you whether it could be used as food or medicine. This knowledge he at once turned to account. He introduced the culture of several leguminous plants and herbs; imported seed from Riga and raised flax; introduced Dutch clover; taught the farmers the use of manure, to make composts, to improve the growth of the potato, which had so far degenerated that fields which had

formerly yielded from one hundred and twenty to one hundred and fifty bushels, now yielded only about thirty or fifty, which the people imputed to the sterility of the soil, instead of their own neglect. His success was most unequivocal, and the consequence was the augmentation of the resources of the Steinthal. As an example of the manner in which he was wont to connect all those efforts for the temporal welfare with the spiritual instruction of his people, we would direct our reader's attention to the following characteristic incident. Although he had been so successful in the affair of the roadmaking, and in the introduction of an improved style of husbandry, still among the parishioners there was a hankering after "old fashions," and for the life of them, they could not understand how it was that he who never dug, or ploughed, or owned an acre of land in his life, should know more about the management of fields and cattle than they did. Oberlin's sagacity at once discovered this, and so, when he wished to make any improvement, or to introduce any new kind of plant, or vegetable, or tree, he began in his own garden, and when the curiosity of the people was excited, he detailed to them the name of the root, the object he had in cultivating it, the mode to be observed in its culture, etc., until he had thoroughly instructed them, and kindled a desire in their minds to imitate him. There was scarcely a fruit-tree worth a groat for miles around, and there were few gardens which grew any thing but the most luxuriant weeds. To talk about the matter Oberlin knew would be quite useless, so he betook himself to his old plan of teaching by example. He had a servant who was an intelligent and devoted man; they took counsel together. There were two gardens belonging to the parsonage, each of which was crossed by a well-frequented thoroughfare. One of these gardens had been noted for years for the poverty and sterility of its soil; this he determined to convert into a nursery-ground! Trenches, accordingly, were dug, and the land laid out; slips of walnut, apple, plum, and pear trees were planted. In due time the trees blossomed, and when the period of fruitage came, the crop was abundant. The plan, as Oberlin anticipated, succeeded admirably. Week after week the villagers were wont to pause, and wonder how trees could grow in such a soil. Then they began to contrast

the appearance of their pastor's garden with their own; and *then* they came to him in crowds, begging that he would be kind enough to instruct them how to grow trees for themselves. The object he sought was accomplished. According to his accustomed mode, he first directed their thoughts to Him "who causeth the earth to bring forth her bud, and who crowneth the year with his goodness," and then gave them the desired information. To aid them, he gave them a supply of young trees from his nursery, and instructed them in the art of grafting. The consequence was, that in a little time the whole district changed its aspect: the bare and desolate-looking cottages were speedily surrounded by neat little gardens, and instead of the indigence and misery which formerly characterized the villagers and their dwellings, they now put on the garb of rural beauty and happiness. So rapid were the advances which the people made under his direction, that, in 1778, Oberlin formed an Agricultural Society, which he connected with the central society at Strasburg. By doing so, he secured the use of the society's publications and periodicals, and received its assistance in the distribution of the prizes, which were annually awarded to the peasants who distinguished themselves in the grafting and culture of fruit-trees, and in rearing or improving the breed of cattle. The Strasburg Society, as a testimony of its sense of the advantages which Oberlin's labors had bestowed upon the people, placed two hundred francs at his disposal, to be distributed among such agriculturists as he might deem worthy of a prize. He soon began to reap the fruit of his toil. Everywhere around him civilization and the power of the gospel made themselves manifest. With the improvement of their physical condition, their moral advancement went hand in hand, till at length, in the district around, and in the towns and cities of the basin of the Rhine, few things awakened more astonishment or attracted so much attention as the remarkable change which had taken place in the people, and the no less remarkable character of the pastor of the Ban de la Roche, whose good works will furnish most interesting material for a second paper.

#### PART IV.

To Oberlin belongs the merit of being the founder of Infant Schools; a fact which justly entitles him to the gratitude of mankind.

When he took the cure of the Ban in 1767, there was but one schoolhouse in the five villages, and that was a hut erected by Pastor Stouber, which then was in a ruinous state. He called the parishioners together, and proposed that they should either build a new one or repair the hut. They gave a decided negative to his proposition, nor would they again listen to him on the subject, until he engaged that no part of the expense should fall on the funds of the parish. His income, arising from his salary as pastor, and his little property, did not amount to more than about forty pounds a-year; nevertheless, he gave the required promise, and the schoolhouse was built. "Why should I hesitate in this matter?" said he; "I seek only the glory of God, and therefore I have confidence that he will grant me what I desire. If we ask in faith, and it be really right that the thing should take place, our prayer is certain to be granted. When, indeed, are our plans more likely to be successful than when we enter upon them in humble and simple dependence upon God, whose blessing alone can cause them to succeed?" Thus Oberlin reasoned, and time proved that he reasoned aright. God *did* grant his prayer. His fast friends at Strasburg, who watched his progress with anxiety, came to his help; and further, in the course of a few years, the inhabitants in the other four villages voluntarily proposed that a school should be built in each of which they would cheerfully bear all the expense! And so they did. The young are the hope of the world. The men and women of the next generation will be what the children of the present are. The future is only the development of the present; "the child is father to the man." Oberlin instinctively knew what Wordsworth wrote; consequently, as the sequel will show, he directed all his energies to the instruction of the young of his flock. The habits of the adults might be modified, but not eradicated. The men were as ignorant of the commonest mechanical arts as their wives were of domestic economy or home comfort. They had passed their learning time. Not so, however, with their children. So Oberlin selected the most promising, and sent them to Strasburg, to acquire the trades of mason, carpenter, glazier, wheelwright, and blacksmith. When they returned to the Ban, they became the instructors of others. Their earnings increased the little treasures of the

district, while their skill accelerated its improvements.

The schools which were erected were devoted to the use of children from the age of ten to seventeen. The shepherd-masters, who, poor fellows, played the "dominie" under the *ancien regime*, were cashiered, and the most respectable of the inhabitants were prevailed upon to take their places under the imposing title of "regents." The plans of instruction were drawn up, and the "regents" drilled in the science of education by Oberlin. While the schools were working well under his careful superintendence, he noticed that the *infant* children were almost wholly neglected by their parents, and were therefore forming habits which in after years would increase the task of the schoolmaster, if not altogether nullify his labor. His active mind at once devised a remedy for the evil. The result was a plan for the establishment of Infant Schools—the first of the kind ever known. Experience of his own family and keen observation in the families of others, led him to the conclusion that children begin to learn even in the cradle, that at the earliest age they are capable of being taught the difference between right and wrong, and are easily trained to habits of obedience and industry. His beloved and intelligent wife entered heart and soul into his views. The most pious and intelligent females of the community were induced to take charge of the schools. For their use, Oberlin rented a large room in each village, and out of his own pocket paid the salary of the *conductrices*. The instruction given to the little ones was mingled with amusement, and habits of attention and subordination were formed, while information of the most valuable kind was communicated in a manner which rendered it attractive to the infant mind. The songs of "dear mamma" had left too deep and hallowed an influence upon Oberlin's mind to cause him to overlook the value of music in the instruction of youth. Singing was taught in all the schools. The heart-thrilling hymns of Luther became especial favorites among the children and young people. At a proper age the children were transferred from the care of the *conductrice* to the public schools, prepared, by the progress which they had made, to enjoy the advantages which were there afforded to them. In addition to reading, writing, arithmetic, and geography, they were carefully instructed

in the principles of agriculture and other industrial arts, in sacred and uninspired history, and in astronomy. Their religious cultivation was a task which Oberlin considered his own, and faithfully did he fulfil it. With the view of encouraging the spirit of emulation between the several schools, and to improve the modes of instruction pursued by the various masters, a weekly meeting of all the scholars was held at Waldbach. By this the machinery of the whole was kept bright and in good working order. The master and the pupils were stimulated, knowing that the weekly meeting would bring disgrace to the idle, but to the industrious and good public commendation, and the approval of "dear papa," as Oberlin was called by his people. In addition to this weekly examination, on every Sabbath, at each village church in rotation, the children assembled to sing the hymns and to repeat the passages of Scripture which they had learned during the week. At the close, he usually gave them an address; and superlatively happy was the child or young person who was fortunate enough to merit the approving smile of *cher papa*!

His benevolent efforts were well seconded by the Christians of Strasburg. They sent him several sums of money, all of which were devoted by him to the public use. A printing press was added to the resources of the Ban. This enabled him to print several books which he composed and compiled for the exclusive use of the schools and his parishioners, and to award prizes both to the teachers and pupils. He also made a collection of indigenous plants, and procured an electrical machine, and several other philosophical instruments; various works on natural history and general science were circulated on the "book society" plan, each village retaining them for three months, care being taken that every house, according to the number of the family, possessed them for a definite time. Every individual was impressed with the conviction that it was a first duty, as well as a great privilege, to promote the glory of God and the welfare of mankind. Every work which was undertaken of a public or private nature was discharged, each one bearing in mind his responsibility to promote the prosperity of all, by "provoking his neighbor to love and to good works." Thus the Ban was changed. Where ignorance and its never-failing attendants, cruelty, vice, poverty,

reigned supreme, piety, intelligence, meekness, and plenty, held triumphant sway.

Little more than fifty years ago, the Christians of this country were almost indifferent to the state of the heathen. Until the London Missionary Society was established, in September, 1795, very little interest was manifested in the cause of missions. The following copy of a paper which Oberlin caused to be printed in French and German, and hung up in a conspicuous place in every cottage in his parish, serves to indicate how early the subject occupied his mind, and how desirous he was to enlist in its favor the affections of his people:—

"Our Lord Jesus Christ desires his followers to espouse his interests; to aid him in his great work, and to pray in his name. To conduce to this end, he has himself furnished them with one common prayer.

"For the satisfaction and assistance of some individuals amongst us, a sort of Spiritual Association was established a few years ago, and the following articles were agreed upon and circulated:—

"First, Every member of this society shall pray, on the first Monday of every month, that the missionaries employed in the conversion of savage and idolatrous nations in all parts of the world may be sustained and supported against the 'wiles of the Devil.'

"Secondly, Besides habitually 'watching unto prayer,' every individual, if he be able, shall prostrate himself in mind and body, every Sunday and Wednesday at five o'clock in the evening, to ask of God, in the name of Christ—

"1st, That every member of this Society may be saved, with all his household, and belong to the Lord Jesus Christ.

"2d, Every member shall add to the list all the friends of God of his acquaintance, and pray for them.

"3d, Every member shall include in his prayer all the children of God in general, upon all the earth, of whatever denomination they may be, supplicating that they may be united more and more in Christ Jesus.

"4th, Every member shall pray that the kingdom of Satan may be destroyed, and that the kingdom of God and of our Lord Jesus Christ may be fully established among the innumerable Pagans, Turks, Jews, and nominal Christians.

"5th, Every member shall pray for schoolmasters, superiors, and pious magistrates, of whatever name or rank they may be.

"6th, For faithful pastors, male and female laborers in the vineyard of the Lord Jesus, who, being devoted themselves to his service, desire above all things to bring many other souls to him.

"7th, For the young, that God may preserve them from the seducing influence of bad example, and lead them to the knowledge of our gracious Redeemer.

"Thirdly, Every Saturday evening, all the



members shall ask God to bless the preaching of his holy word on to-morrow."

Here there is every thing *Christian*, but nothing *sectarian*. His loving heart embraced in its affections the whole Church of God, and this catholic Christian wished his flock to be like-minded with himself. Without either seeking, or desiring it, he obtained an almost European celebrity. Several foreigners of distinction visited the Ban, and confided their children to his care to be educated in his schools. Young persons, of the middle classes, were sent to him, from distant parts of Germany and France; and to have been a pupil of Pastor Oberlin was considered a sufficient testimonial of sound principles, varied and useful learning, and courteous and gentle manners. Even the wicked revered this good man. During the Reign of Terror, when France was deluged with the blood of her children—when to be a worshipper of God was to be suspected of treachery to the principles of the Revolution—when St. Just and his companions in crime travelled with a guillotine, and put whom they pleased to death—when the public worship of God was prohibited, and almost every man of piety or intelligence or wealth was either imprisoned or executed—Oberlin was allowed to continue his work unmolested, and even to afford shelter to many persons of rank and of different religious denominations, who fled to the Ban from the "terrorists." Such was the impression which his life made upon all that came in contact with him, that a gentleman who, at this very time saw at his house one of the most sanguinary of the revolutionary chiefs, says that "that chief while at Oberlin's seemed to have lost his bloodthirsty disposition, and to have exchanged the fierceness of the tiger for the gentleness of the lamb!"

All that knew him loved him. His worth was acknowledged not only by those who were far off. Louis XVIII. sent him the ribbon of the Legion of Honor, and the Royal Agricultural Society of France voted him a gold medal. When Count François de Neufchâteau proposed this vote, he said, "If you would behold an instance of what may be effected in any country for the advancement of agriculture and the interests of humanity, friends of the plough and of human happiness, ascend the Vosges Mountains, and behold the Ban de la Roche!" At the time of the foundation of the British and Foreign Bible Society, his fame had spread into Britain;

and one of the first grants made by the society was to Pastor Oberlin for the inhabitants of the Ban. It was there that our "Ladies' Bible Committees" originated; and those of our readers who are fortunate enough to possess the first report of the society will find in the appendix an exquisite letter from Oberlin, in which he acknowledges the receipt of the grant, and details the mode in which he intends to appropriate it.

## PART V.

We approach the conclusion. We have given a glimpse of the labors of this faithful servant of God and of man to our readers; we now call them to view him in his sorrows, and accompany him to the grave.

His heaviest trial, though not his first, was the loss of his wife. She died in January, 1784, in the sixteenth year of their union. She departed almost suddenly, leaving him seven, out of nine, children, the youngest being only about ten weeks old. Nothing could be more characteristic than his conduct on this distressing occasion. Her death was wholly unlooked for. When the intelligence was brought to him, he was stunned, and remained for sometime in silence, quite incapable of giving utterance to his feelings. He then fell on his knees and returned "thanks to God that his beloved partner was now beyond the reach or need of prayer, and that her heavenly Father had crowned the abundance of his mercies towards her, by giving her so easy a departure." At their marriage they had prayed that they might always have death before their eyes, and always be prepared for it; and "if it be a thing," they added, "which we may ask of thee, oh! grant that we be not long separated one from another, but that the death of one may speedily, very speedily, follow that of the other." From the period of his wife's death a deepened seriousness was observable in his conversation and deportment. He was grave, not gloomy. A word of repining or murmuring never escaped his lips. It was the Lord's doing, and it was right. About six months after he had laid her in the grave, he composed an address to his parishioners, and laid it aside, to be delivered to them after his decease, as his last charge. In this document he briefly states when and where he was born, when he took charge of the Ban, the time of his marriage, the number of his children "two of whom," he said, "have already entered paradise, and

seven remain in this world;" he also names the day and the circumstances in which his wife died.

"Upon this occasion," he goes on to say, "as upon a thousand others in the course of my life, notwithstanding my overwhelming affliction, I was upheld by God's gracious assistance in a very remarkable manner. I have had all my life a desire, occasionally a very strong one, to die, owing in some measure to the consciousness of my moral infirmities and of my frequent derelictions. My affection for my wife and children, and my attachment to my parish, have sometimes checked this desire, though for short intervals only. I had, about a year since, some presentiment of my approaching end. I did not pay much attention to it at the time; but, since the death of my wife, I have frequently received unequivocal warnings of the same nature. Millions of times have I besought God to enable me to surrender myself with entire and filial submission to his will, either to live or die, and to bring me into such a state of resignation as neither to wish, nor to say, nor to do, nor to undertake any thing, but what He, who only is wise and good, sees to be best. Having had such frequent intimations of my approaching end, I have arranged all my affairs as far as I am able, in order to prevent confusion after my death. For my dear children I fear nothing; but as I always greatly preferred being useful to others to giving them trouble, I suffer much from the idea that they may occasion sorrow or anxiety to the friends who take charge of them. May God abundantly reward them for it? With regard to the children themselves I have no anxiety; for I have had such frequent experience of the mercy of God towards myself, and place such full reliance upon his goodness, his wisdom, and his love, as to render it impossible for me to be at all solicitous about them. Their mother was at a very early age deprived of her parents; but she was notwithstanding, a better Christian than thousands who have enjoyed the advantage of parental instruction. Besides, I know that God hears our prayers, and ever since the birth of our children neither their mother nor I have ceased to supplicate him to make them faithful followers of Jesus Christ, and laborers in his vineyard. And thou, O my dear parish! neither will God forsake thee. He has towards thee, as I have often said, thoughts of peace and mercy. All things will go well with thee; only cleave

thou to him, and leave him to act. Oh! mayest thou forget my name, and retain only that of Jesus Christ, whom I have proclaimed to thee. *He* is thy pastor; I am but his servant. He is that good Master who, after having trained and prepared me from my youth, sent me to thee that I might be useful. He alone is wise, good, almighty, and merciful; and as for me, I am but a poor, feeble, wretched man." . . . This touching document concludes thus:—"O my God! let thine eye watch over my dear parishoners; let thine ear be open to hear them; thine arm be extended to succor and protect them! Lord Jesus, thou hast entrusted this parish to my care, feeble and miserable as I am; oh! suffer me to commend it to thee—to resign it into thy hands. Give it pastors after thine own heart; never forsake it; overrule all things for its good! Enlighten them, guide them, love them, bless them all; and grant that the young and old, the teachers and the taught pastors and parishoners, may all in due time meet together in thy paradise! Even so, Father, Son, and Holy Spirit! Even so. Amen."

Forty-two years after this parting address was written, it was found among his papers, and was read in the churchyard, to his assembled people, before his body was lowered down into the grave. Those forty-two years were spent, like those that preceded them, in unremitting attention to the instruction of his flock. The death of his sons, which took place when they had attained the age of manhood, seemed only to quicken his diligence, and to deepen his solicitude respecting the eternal welfare of his charge. The apostolic injunction came with power to his heart—he was "instant in season and out of season," and always "fervent in spirit." He did not content himself with preaching publicly, but paid pastoral visits to every cottage in his large parish, and conversed with the people upon their spiritual condition, and upon the various efforts which were made by benevolent individuals to diffuse religious knowledge throughout the world. On every Friday he conducted a service in German, for the benefit of about two hundred persons in the Ban, to whom that language was more familiar than the French. At his Friday evening service he used to lay aside all form, and the now silver-headed old man seemed more like a father surrounded by his children than the minister of an extensive district. At those

meetings, in order that no time might be lost, he used to make his female hearers knit stockings for their poorer neighbors, not for themselves; it was a work of charity, he said, and needed not to either distract their attention or to diminish their devotion. When he had for some time read and expounded the Bible to them, he would often say, "Well, children, are you not tired? Have you had enough?" If they said "enough for one time," he would leave off; but the more frequent reply was, "No, dear papa, go on; we should like to hear a little more!" His discourses for the Sabbath were carefully prepared. In them he preserved a colloquial plainness, scrupulously avoiding the use of words or phrases which were not level to the apprehension of his hearers. He drew largely upon natural history, with which his people were well acquainted, for illustration; and he frequently introduced biographical anecdotes of persons who were eminent for piety or benevolence. His favorite themes were the love of God as our Father, the freeness of the gospel, the willingness of the Lord Jesus to receive all who came to him in sincerity, the depravity of man, and the consequent necessity of grace and of the work of the Holy Spirit, and the sure efficacy of prayer. Among the people he also circulated a series of questions to which he required written replies—whether they attended church regularly upon the Sabbath and week days, or ever passed a Sabbath without employing themselves in some charitable work, or themselves or their children wandered in the woods during the hours of divine service. "Do you," he asked, "send your children regularly to school? Do you watch over them as God requires that you should do? Is your conduct toward them, as well as your wife's, such as will ensure their affection, respect, and obedience? Are you careful to provide yourselves with clean and suitable clothes for going to church in? Do those who are so provided employ a regular part of their income in procuring such clothes for their destitute neighbors or in relieving their other necessities? Do you give your creditors reason to be satisfied with your honesty and punctuality? When the magistrate wishes to assemble the community, do you always assist him as far as lies in power? and if it be impossible for you to attend, are you careful to inform him of your absence, and to assign a proper reason

for it? Do the animals which belong to you cause no injury or inconvenience to others? Guard against this, for it would be as fire in tow, and a source of mutual vexation. Do not keep a dog unless there be an absolute necessity for keeping one. Do you punctually contribute your share toward repairing the roads? Have you, in order to advance the general good, planted upon the common at least twice as many trees as there are heads in your family? Have you planted them properly, or only as idle people do, to save themselves trouble? Are you frugal in the use of wood, and do you make your fires in as economical a manner as possible? Have you proper drains in your yard for carrying off the refuse water? Are you, as well as your sons, acquainted with some little handicraft, to employ your spare moments, instead of letting them pass away in idleness?" These questions clearly manifest that every thing calculated to promote the welfare of his people was interesting to him. The result of his solicitous care was seen in the neat dwellings, the industrious character, the sincere, unaffected piety, and the courteous manners of the peasants of the Ban de la Roche.

Numerous anecdotes, illustrative of Oberlin's pastoral fidelity and vigilance, crowd upon us, but we must forego the pleasure of recording them here, and hasten to the conclusion of this sketch.

The close of his earthly career was, like that of a summer day, calm and peaceful. His sun set in glory. His was not a *death*, but a *departure*. The light of his presence faded gently away from this world, only to burst in glorious refulgence and undying splendor upon another! His was a green old age. The snows of time, although they rested upon his head, sent no chill into the warm affections of his heart. In the latter part of his life, the increasing infirmities of age prevented him from occupying himself, as he was wont, in the discharge of his pastoral duty. God, however, provided him an assistant like-minded with himself, in his devoted son-in-law, M. Graff. The old man did what he could. If he could not visit nor preach to his flock, he could pray for them: so in the morning he used to take his church register of baptisms in his hand, and to pray, at stated times during the day, for every one whose name was written there, as well as for the community at large. At all periods of his residence in the

Ban, Oberlin had a high sense of the value and importance of intercessory prayer; and so fearful was he lest he should omit in his supplications any that he wished to especially remember, that he was accustomed to write their names with chalk upon the black door of his chamber. As his failing strength prevented him from crossing the threshold, his active mind engaged with an almost youthful vigor in the labors of the study. Several carefully composed essays, written at this time, were found after his decease. His last work was a refutation of the "De Senectute;" in which he gives a more cheering and consolatory picture of old age than the Roman orator has done.

The sand was now low in the glass. The last grain ran out on the morning of the 1st of June, 1826, when he was in the eighty-sixth year of his age. The illness which preceded his departure continued for four days. On the morning of the 1st of June, at six o'clock, his pain abated. His children were grouped around his bed, and at intervals he clasped their hands and pressed them to his heart. His limbs soon became cold and lifeless, and he lost the use of his speech. His last act was to take off his cap, and to join his hands as in prayer, and to raise his eyes toward heaven; his countenance as he did so beaming with joy and love. He closed his eyes, never to open them again until the day of the resurrection. About eleven o'clock, the toll of the passing-bell informed the inhabitants of the valley that he who had watched over them for nearly sixty years would watch no more.

Four days afterwards he was buried. During the interval which elapsed between his decease and the simple and affecting ceremony which consigned his remains to the grave, heavy clouds rested on the surrounding mountains, and the rain poured down in incessant torrents. Nature seemed to sympathize with the feelings which swelled the hearts of his people, and which bowed their souls with the sincerest sorrow. Oberlin's remains were placed in a coffin with a glass lid, and laid in his study, where, despite of the inclemency of the weather, the inhabitants of the Ban and of the surrounding districts (of all ages, conditions, and religious denominations) congregated to take a farewell look at his beloved face.

Early in the morning of the day fixed for the interment, the clouds cleared away and the sun shone with its wonted brilliancy. As the procession left the house, the president of the consistory of Barr, the Rev. M. Jaeglé, placed Oberlin's clerical robes upon the coffin, the vice-president of the consistory placed his Bible upon it, and the mayor affixed the decoration of the Legion of Honor to the funeral

pall. At the conclusion of this ceremony, ten or twelve young females, who had been standing round the bier, began to sing a hymn, and at two o'clock the procession began to move, the coffin being borne by the mayors, elders, and official magistrates of the Ban and of the neighboring communes.

The region round about seemed to have sent forth all its inhabitants, so great was the concourse which assembled. The interment took place at Foudai, two miles distant from Oberlin's house, but the foremost of the funeral train had reached the churchyard before the last had left the parsonage! The children and youths of the different schools formed part of the melancholy procession, chanting at intervals sacred hymns, selected and adapted to the occasion. When they approached Foudai, a new bell, which had been presented in commemoration of this day of sorrow, was heard to toll for the first time, and to mingle its melancholy sound with the bells of the valley. The burying-ground was surrounded by Roman Catholic women, all dressed in deep mourning and kneeling in silent prayer. On arriving at the church, the coffin was placed at the foot of the communion-table, and as many persons entered as the little place would contain, the great multitude having to remain in the churchyard and the adjoining lanes. Notwithstanding the presence of so great a number of persons, the utmost order and solemnity prevailed. Several persons, who could find room nowhere else, sat down on the steps beside the coffin, as if anxious to cling to the ashes of one whom they loved so well. Many distinguished persons were present, and several Roman Catholic priests, dressed in their canonicals, sat among the members of the consistory, and evidently shared in the general grief. M. Jaeglé then mounted the pulpit and read the charge, which we have already given, which melted the vast auditory into tears; and then he delivered a discourse from the fourteenth verse of the seventh chapter of the book of Revelations, which had been selected by Oberlin himself as that from which his funeral sermon was to be preached. At the conclusion of the president's address, a hymn was sung and the coffin borne to the grave, which is on one side of the little church, beneath a weeping willow that shades the tomb of his son Henry. Here, amidst the tears of the assembled thousands, the earth was heaped upon the house of clay which once contained the spirit of Oberlin, the world's benefactor, while the humble and Christ-like pastor of the Ban de la Roche.

Reader, do you wish to die as he died? If so, live as he lived; and your memory, like his, will be green and fragrant throughout all ages.



From The Edinburgh Review.

1. *General Outline of the Organization of the Animal Kingdom, and Manual of Comparative Anatomy.* By Thomas Rymer Jones, F.R.S. (Second Edition.) London: 1855.
2. *On Parthenogenesis, or the Successive Production of Procreating Individuals from a Single Ovum, introduced to the Hunterian Lectures on Generation and Development for the Year 1849.* Delivered at the Royal College of Surgeons of England, by Richard Owen, F.R.S. etc. London: 1849.
3. *The Rambles of a Naturalist on the Coasts of France, Spain, and Sicily.* By A. de Quatrefages. Translated (with the Author's sanction and co-operation) by E. C. Otté. 2 vols. 1857.
4. *Sea-Side Studies at Ilfracombe, Tenby, the Scilly Isles, and Jersey.* By George H. Lewes. 1858.
5. *The Master-Builder's Plan, or the Principles of Organic Architecture, as indicated in the Typical Forms of Animals.* By George Ogilvie, M.D. London: 1858.

In a recent number of this Review\* we took occasion from some remarkable works then before us, to comment on those present conditions of physical science which more especially mark its progress onwards, and the larger scope and higher spirit now given to its pursuit. Our view, however, was then confined almost wholly to the inorganic part of creation, and to those sciences which treat of matter unendowed with life, and of the great natural forces or powers—gravitation, light, heat, electricity, magnetism, and chemical force—which we recognize by and through their various action on the material world.

We have now before us another series of works (to which very many more might be added) recording the present state of our knowledge of matter organized into life; of that vast domain of animal and vegetable existence which lies around us, presenting a thousand problems to our reason, and almost appalling contemplation by its extent and multiplicity. This short and seemingly simple word—*Life*, does, in truth, in itself include the greatest of all the problems submitted to human thought. All distinctions and diversities are trifling in comparison with this one line, which separates inanimate matter from the living organisms created out of it; possessing properties and powers of endless vari-

ety; and, above all, endowed with that wonderful power of reproduction which maintains the continuity of the species, while individual forms are successively passing away. No step so vast as this, no mutation so wonderful, in any part of creation. The mystery is not solved—scarcely lessened to our conception—by those researches which, descending in the scale of existence, seem to obliterate all certain distinction between animal and vegetable life, and to bring the latter to the very lowest grade to which the term *living* can fitly be applied. It is still the distinction between that which can reproduce itself and that which cannot; and in this single condition lies the clearest expression of all vitality, whatsoever its form or degree. No definition of life can be complete without it. Alone it suffices to mark that line of division which even the finest microscope fails to reach; and it applies no less to that more wonderful and complex animal machinery by which higher forms of existence are maintained and perpetuated.

Into this domain of organic life, modern science has penetrated with no less zeal and success than have signalized its course in the other branches of physics. This parity of progress has been kept up, notwithstanding certain distinctions which may seem to favor the pursuit of the latter. Such are, the surpassing grandeur of the physical discoveries of our day; the mathematical certainty of many of the laws thence derived; and the important practical uses to which these discoveries have been applied, enlarging the dominion of man over nature, through elements which were formerly known but as objects of admiration or terror. No period has been so prolific of these achievements as that in which we are now living.

On the other side, however, we find numerous incentives to a like zeal in the study of the living existences around us. The simple presence of the attribute of life, as we have denoted it, tells for much with every reflecting mind. But this part of natural science gains also by the comparative facility with which it may be successfully pursued. Few can compass all that is required for experimental research, especially under those refinements of method which have now become essential to success. Many are competent to a science mainly of observation, amidst objects present to the senses, often associated with the charm of natural scenery, and consonant to the nat-

\* Living Age, No. 749.

ural tastes and habits of the mind. The traveller who gathers his unknown plant in Australia or Paraguay; the naturalist who discovers some new form of animal life, or disintombs some fossil from its rocky sepulchre of ages; the physiologist who detects new organs or instincts in animals already known,—all hold rank, in one degree or other, as laborers in this great field. No fact so small as to escape being registered in the volume of natural knowledge.

In thus distinguishing, however, the two great objects of scientific pursuit, it must be kept in mind that no strict line of demarcation exists between them. The progress of knowledge is ever bringing more closely together, and under the dominion of common laws, facts and phenomena apparently the most remote. Though rejecting the phrase of "unity of science," as a vague effort of language to reach an ambiguous truth, we see and admit a constant propensity towards unity in a more qualified sense. Facts multiply every day in number, but every day they are submitted to new conditions of order and comparison. Phenomena familiar to the senses from the earliest ages of human records, are expounded to the reason by the daily discoveries of our own time. Life itself, taking the term in its simplest sense, can be interpreted only by the laws which pervade all matter; and is unceasingly subject to those great elementary forces, heat, light, electricity, and chemical action, which are ever in operation around us. They are the instruments in those wonderful organizations which it has been the will of the Creator to bring into being; and they have subordinatedly become instruments in the hands of man for interpreting these higher manifestations of the creative power.\*

It would be impossible within the limits of this article to analyze the several works prefixed to it, or even to denote the especial objects and merits of each. It will be seen that several of them relate more especially to those lower forms of animal life which lie close to the boundary—if certain boundary there be—between the animal and vegetable

\* We cannot here forbear to express our pleasure in seeing advertised a new edition (the ninth, we believe) of Mrs. Somerville's volume "On the Connection of the Physical Sciences." To this accomplished lady we owe the first and best work on this subject; replete with knowledge, and eminent in the power of condensing, yet clearly expounding it.

world. This particular portion of natural history has of late risen into high popularity, and the works devoted to it display an exuberant enthusiasm in the research. While the astronomer is soberly dealing with the great elements of space and time, which make the material of his science, the modern naturalist, is rioting in rapturous language about the beauty of his zoöphytes, and the microscopic marvels of infusorial life. The remarkable works of M. Quatrefages, and of Mr. Lewes, are striking instances of this devotion, and of the enthusiastic language, verging at times on rhapsody, in which it is invested. The real beauty of many of the objects, the scenery with which they are often associated, and the curiously delicate methods of research employed, will explain in some part this ardor of pursuit. Nor can we deny a sentiment of grandeur as belonging to objects even thus minute, when so infinite in number and variety. That which human calculation cannot approach, has in itself a certain element of the sublime, be the subject what it may. But, connected with this study, we have also the many mysterious questions which regard the manner of generation and existence of these elementary forms of animal life, and their relation to other created beings,—topics well fitted to take strong hold on the mind of every thoughtful man.

On some of these questions we shall have to speak hereafter. Meanwhile, we must explain in reference to the subject of this article, that, although we have it in view to indicate the progress and spirit of modern science, in its researches into organic nature, yet, that in so doing, we must limit ourselves mainly to animal life; referring to that of the vegetable world chiefly in illustration of the former. Even under this limitation, required by the vastness of the subject, we cannot go into any thing like a complete review of the topics embraced under the name of Animal Physiology. Whoever takes up the massive volume of Dr. Carpenter—a work, we must add, of great excellence, and the most complete we possess—will see how much is comprised in this wide domain, how profound the questions offered to human thought, how large the voids yet left for future inquiry. What we may best attempt is, to place before our readers a summary view of the questions and discoveries in this part of science, of highest import in themselves, and which will

attest the scope and spirit now given to its pursuit. In doing this, we shall be guided, not solely by the works before us, but by our own estimate of the relative interest and value of the topics to which they relate.

It will be obvious, even to those who have given only casual thought to these questions, that many of them tend to take a metaphysical turn; while not a few are of a nature wholly to transcend the present faculties of man. The attainments actually made by these faculties, in their more exalted use, furnish reasons for not drawing hasty and arbitrary lines in limitation of further progress. But there are certain barriers which the highest genius is the first to recognize and submit to; seductive though the speculations are which here begin to usurp upon the reason. As great boldness and mental power may be shown in well defining the boundary of research, as in adventuring wantonly over and beyond it.

What we have already said on the abstract principle of Life, as appended to material organization, will show that this, the great and elementary point with which we are here concerned, comes under the class of questions just spoken of. Notwithstanding all that has been done—and it is vast in amount and variety—towards our knowledge of living beings, and of those organizations upon which vital functions depend, and by which they are maintained and reproduced, the question unceasingly recurs, and can in no way be put aside,—What is the principle, or property—if any—superadded to the known properties of matter, giving it those new conditions which create and constitute vitality? It is this inquiry which, in one form or other, has exercised every age and school of philosophy; and been argued the more intently, or even passionately, from the question having been often made to embrace intelligence and the other mental functions, as well as mere vitality. Under this latter aspect, it will be recognized as that old problem of Materialism, upon which so much controversy has been wasted;—a controversy equally fruitless, we believe, in all time to come, since no conception can reach the abstract nature either of matter or mind; nor any argument show that things perceived by the senses have more of independent reality than the principle perceiving, and the intelligence and volition acting upon them. The materialist fancies him-

self on firm ground, because his argument has matter for its foundation. His matter itself is known only by and through that mind which he assumes to create out of it.\*

On this point, and for these reasons, we do not dwell further; but we proceed to that part of the subject, more accessible to human reason, which engages at this time the earnest attention of naturalists, in every branch of their science; viz., the manner and extent of influence of the great physical forces, ever in action around us, in producing and maintaining those other powers and properties which we call *Vital*; and which, in their aggregate, represent all we define as Life upon the globe. In the article already alluded to, we spoke of the doctrine of the "Correlation of Physical Forces," first propounded and illustrated by Mr. Grove; and pursued in sequel to him by other writers, whose works were then before us. It is clear that these great powers, Heat, Light, Electricity, and Chemical force or affinity, whatever their nature or mode of development, stand to each other in their action on matter, in the relation of mutual convertibility;—that their forces, however altered in respect of action, are never really lost or lessened;—that they are the efficient energy, not solely in the greater and more obvious phenomena of the material world, but equally so in the most minute molecular actions to which matter is subject. We can modify, by human powers and machinery, the aspects of force and its actions upon matter. We can never either create or annihilate it. These conclusions, at the utmost but vaguely and partially surmised before, have now acquired certainty enough to give them place among the great general laws of nature; and experimental science is every day bringing fresh facts to their proof and illustration. Whether the term of "Correlation of Forces," provisionally applied by Mr. Grove to describe our present knowledge, may not hereafter merge in the single form and conception of *Force*, as contra-distinguished from the matter on which it acts, is a point open to future determination. Mutual convertibility is closely akin to unity, if not an actual expression of it. Much that is of the deepest interest to

\* In Germany, as might well be presumed, this controversy is ever awake, and the doctrine of Materialism finds numerous advocates. In the recent work of Büchner (*Kraft und Stoff*), already largely circulated, it assumes its hardest and grossest form.

philosophy hangs upon the solution of this problem; involving, as will be seen, all the relations of matter to that mighty influence which has been destined to mould it into form, activity, and even into life itself.

It is here, in fact, that we find ourselves in the very heart of the question which has long been agitated by physiologists, and still remains matter of controversy—whether there be really any separate Vital Principle; a positive and independent power, giving, by its presence, organization and life to certain combinations of matter?—or whether the simple vital phenomena may not all be referred, as effects, to those great physical powers, or forms of force, which we see acting so incessantly on all matter in the universe; and the influence of which upon the vital functions is obvious at every moment of existence?

Each of these views has found zealous advocates, and been discussed in the bold and free spirit which belongs to the science of our day. Each, in truth, furnishes ample materials for difference and dispute. Looking at the controversy as it now stands, we believe the latter opinion to have gained much upon its adversary. The doctrine of an independent vital principle is one of old date; and in its very nature admits of little argument or advance. It rests mainly on the assumption that the phenomena of life, even in its simplest form, and apart from mind and intelligence, are unlike and incongruous with any actions of which we are cognizant as the obvious results of physical forces operating upon matter. Though the argument may be varied in form, yet in no way can it be made more absolute, or stretched beyond this method and degree of proof. By the very terms of the question, we quit here the region of the senses and of material experiment, and affirm a power unknown except in what we presume to be its effects. It is negative evidence; and, as far as we see, can never be rendered other than such.

Those who advocate the other view, adopt a doctrine equally insusceptible, it may be, of positive proof; but yet constantly progressive, and in its progress prolific of results favorable to the conclusion sought for. They have the advantage in the very outset of being able to affirm that, without the action and influence of the physical powers in question, no life could possibly exist. The wonderful discoveries recently made as to those more subtle

actions of electricity, heat and light, which evaded the grosser experiments of former times, have assisted their argument. Equally so the researches, not less wonderful, into the molecular constitution of bodies; and the relative proportions in which such molecules, whatever their nature, unite in every case of chemical combination. Chemistry, in fact, and especially the chemistry of organic bodies, has done more for us in decyphering the structure and functions which appertain to life than any of the other powers of physical analysis. The definite proportions, which exist in every union of the simpler chemical elements, are found also in the most complex compounds which form the material of living bodies. The poisonous ingredients of animals and plants, equally with their nutritive portions, yield invariable results to organic analysis. That remarkable animal secretion, urea,—now producible by the art of the chemist,—has the same chemical characters in the common house-fly as in man. A minute quantity of phosphorus is detected in the nervous substance of the brain;—in the healthy state it bears a certain proportion to the other ingredients, showing thereby its determinate relation to this remarkable part of the living economy. Endless similar instances might be given, to prove the wonderful extent and uniformity of the chemical actions, which pervade every living texture; equally definite in all which concerns its growth, as in the changes which precede and produce its ultimate decay.

But modern Chemistry goes yet further in its aims and success. Numerous substances, both animal and vegetable in kind, known to us before only as the products of living actions, have been actually produced in the laboratory; identical in every chemical character, but subject, we must add, to this notable distinction; that whereas in nature the series of living organisms is begun from the combination of a few simple elements, no present artifice of chemistry can fully imitate this higher workmanship, otherwise than by acting on compounds already formed. In theory, however, it does not seem improbable that this ultimate step may yet be made. Whatever experimental skill, aided by boldness of aim, can accomplish, will be done by those who now work in the physiological department of chemistry. The schools of Liebig, Dumas, Hoffman, Bernard, etc., are



creating pupils, and fostering a zeal in the pursuit, to which we may well look for results hitherto unimagined or unattained.

We may dwell somewhat further still on this argument of the relation of the great physical forces to vital phenomena, inasmuch as the question is really supreme among those which relate to the theory of life. It is obvious as a principle in conducting it, that we must proceed upwards from the lowest and simplest forms which occur in the scale of being. If in these the properties of life and reproduction depend on physical agents alone, without any new and unknown principle of power being added, we must needs carry the conclusion onwards to higher grades of organization. No line of limitation exists obvious either to the senses or to reason. Some might conjecture it to lie in the distinction between animal and vegetable life. But even acquiescing in all that is expressed in this distinction, can we fairly claim for the Medusæ or the Oyster a peculiar cause or principle of life, which we deny to the Sensitive plant, the *Dionæa Muscipula*; or to the common Nettle, Barberry, and various other plants, each endowed with some peculiar sensibility? That the same natural forces have influence on all these organisms is certain. Are we to suppose some mysterious agent, yet unrecognized, as needed in addition to explain the appropriate functions of animal life, even in their simplest form of organization?

This particular question is obviously subordinate to the larger one we are now discussing. The grounds of argument are the same; the difficulties exactly alike. Thus far we have dwelt more especially on chemical action, as giving us closest access to the laws of vitality. But Electricity, that wonderful agent on our own globe, and probably throughout all space—which, scarcely known a century ago, is now the most powerful instrument in the hands of man—bids fair to become an equal exponent of the vital functions, and especially of those important functions which belong to the nervous system. We shall have occasion hereafter to recur to this point; and merely mention it here, as relating to one of the great powers which are incessantly acting upon and through life in all its forms. The same may be said of Heat; the influence of which in promoting organization, and maintaining the vital functions, is familiar to us in a thousand ways; and at-

tested in more scientific form in every part of animal physiology. The action of Light, as separate from heat, is somewhat more ambiguous; but that it has special effects on these functions cannot be doubted; and very remarkable proofs of this are every day multiplying upon us. We might almost deem sufficient as evidence, the spectacle of the sudden bursting forth of life of all kinds under the influence of a bright summer sunshine. But science goes far beyond this, in showing that Light, like Heat, does truly permeate and act upon those molecules of matter, of which all bodies, organic or inorganic, are composed. Much is yet to be learnt on this most curious subject.

Such is the general evidence and argument of those who believe that we need look for no other vital principle than lies in some modified function of those forces, which we see in unceasing action around us, and feel to influence at every moment the conditions of our own being. The fact, already noticed, of their mutual convertibility, and other various proofs that force may be hidden, latent or altered in aspect, but can never be effaced or lost, undoubtedly favors this view. When its sensible effects disappear, we have cause to believe that it is either operating in some way too minute for our detection, or that it exists in some new condition ready for an altered form of future development. The advocates of the doctrine we are expounding are apt to startle by their illustrations those not accustomed to these views. We feed a jaded horse on a peck of oats, and he is able to travel again;—the effect, say they, of the evolution and conversion into *nerve force*, of that power which has been laid up in the grain during its growth. We light and warm ourselves, and give propulsion to our engines, with that coal which for countless ages has retained within its substance the light and heat of its original forest growth. Such instances as these, and especially the first, may seem rashly to outrun the cautious step of scientific induction. Yet they find authority in the marvellous fact, well authenticated by Faraday, that one drop of water contains, and may be made to evolve, as much electricity as under other manner of evolution would suffice to produce a thunderstorm. And we might quote as an instance not less wonderful, and still more in point, that germ of vitality, preserved for twenty or thirty centuries, which can make prolific under

our own eyes, seeds taken from the mummy ases of ancient Egypt. When positive observation teaches us this much, we are not in case to deny the analogous conditions put before us for belief. The abstract conception of *force*, thus laid up for future evolution under the same or a new form, is one of the most profound upon which either reason or imagination can dwell.

We must not, however, linger further on this question, fundamental though it be to all researches into the nature and laws of life; and blending itself with every subordinate question in which these laws are concerned. If it seem that we have pressed the argument too much on one side, we must repeat that the doctrine of a separate vital principle rests on negative grounds only, and little admits either of amplification or detail. The bold and active science of our day has for the most part ranged itself on the opposite side; and is ever occupied in fixing new relations and equivalents of power,—the materials, it may be, of more general laws than have yet been reached by human intelligence. We must especially notice the paper of Dr. Carpenter, "On the Mutual Relations of the Physical and Vital Powers," as a striking specimen of this method and spirit of research. It is one of the avenues fairest in promise for future discovery.

The question we have been discussing is common both to animal and vegetable life. We now come to other topics, subordinate and more special in their nature, yet all of high interest to natural science, and all demonstrating the spirit and zeal of modern inquiry. The first of these topics has been already partially noticed; viz., the relation to each other of these two great natural provinces, each so profusely peopled, and each exhibiting such wonderful design and exuberant variety of the creative power. This question has of late been closely examined by naturalists. It involves the fact, in itself one of great interest, that in the lowest and simplest forms both of animal and vegetable life, there is so close a coalescence of the two, as well in structure as in mode of development, that it is often difficult to say to which the individual belongs. Even the acute microscope of Ehrenberg put down as Polygastric Infusoria what are now discovered to be germs of vegetable life. We are brought here, in fact, to that doctrine or discovery of our own time, that the *simple*

*cell* is the primitive germ of all living organization, even of that which in its end attains the highest grade of animal existence. Of this doctrine and its bearings we shall have to speak hereafter. Meanwhile, looking simply at the two great kingdoms of life, as they diverge from this initial point, by a gradual scale of ascent, to higher states of each, the special question arises,—What are the peculiar physical conditions which separate and severally distinguish them? Of the answers put forward to this question all may be said to converge more or less towards one point; viz., the fact, well established, that while vegetable life is created and supported from *unorganized* or *disorganized matter*, animal life always requires for its nutriment matter already organized either by its own or vegetable processes. It cannot, so to speak, work the raw material into its own texture. Even the mere animal jelly, floating in water without obvious organization, is nourished by absorption of vegetable sporules, or animal matters so comminuted as to serve to this end. A more special distinction, but equally explicit, has been drawn from the chemical action of plants on the atmosphere. Expressing it in the words of Mr. Huxley, "Wherever any organism is found to decompose carbonic acid, under the influence of sunlight, and to set free oxygen, that organism may be ranked as a vegetable, however active may be its movements." The removal of some seeming exceptions leaves this distinction a valid one to our present knowledge. Others have been suggested (such, for instance, as the fact that no living being has a form *geometrically regular*, or shows other than a *curved configuration* of its surfaces), but none, hitherto adduced, are so striking or unequivocal as those to which we have just adverted.

We have before stated it as our design to limit the present article chiefly to those researches into animal life, which have been so prolific of discovery, as well as of speculations—often profound, sometimes rash—on this higher part of creation. The same reasons which lead to these limitation, will oblige us to take up these topics in a somewhat desultory manner; with less regard to their order and completeness, than to the interest they possess, or the illustrations they may afford of the progress recently effected in this part of science. The two most remarkable facts attesting this progress, are, undoubtedly, the

extraordinary additions made to our knowledge of existing species, nearly quadrupling their number within half a century;—and the discovery of that vast and heretofore hidden world of animal life, which has been entombed, for ages beyond all human count or speculation, in the rocks that cover our globe. The ardor of the traveller and naturalist, aided by the microscope, has rapidly multiplied to our view the species of present animal life. The equal ardor of the geologist, working amidst the strata, which chance or labor disclose to him, has shown what we may well call a series of successive worlds of animal and vegetable life; since, though the general types be the same as those we see in present existence around us, the species differ in each of the successive periods of time, thus wonderfully brought to light.

Of the two great steps in knowledge here denoted, the latter is doubtless the most remarkable, and replete with problems of the deepest interest; including time as one of the elements, and thereby bearing on the history and destinies of man himself. But the extraordinary multiplication of the number recognized living species, though less striking to the imagination, yet furnishes conclusions hardly less important to the philosophy of life. It is difficult indeed to define, even by approximate numbers, the amount of this multiplication, which has occurred chiefly, though by no means solely, in the lower parts of the animal series. The powerful eye of the microscope has shown, in earth, air, and water alike, new forms of life, invisible to all unaided sense, but endless in aspect and variety. Every bucket of water taken up from mid-ocean teems with vitality. The dredgings of Forbes and others in shallower seas show different zones of depth tenanted by different species of animal life. Even the deep bed of the Atlantic, ten thousand or twelve thousand feet below the surface, was found, in soundings for the electric cable, to be covered with the remains of Foraminifera, which, for aught we can tell, may have lived at this depth. We all know (and in hot countries cogently feel) how thickly the air is peopled, not merely with the birds which crowd and ornament our museums, but yet more with incalculable swarms of insect life, even more audible than visible to sense. The tropical forest is noisy day and night with the life it contains. The sea is luminous with animal phosphorescence. Nearly

two hundred species of glow-worms, and forty or fifty of fire-flies, are catalogued as luminiferous animals of the land. The researches of Ehrenberg, eminently successful among the fossil and living Infusoria, have since been directed to the atmosphere; in which, by appropriate methods, his microscope has detected numerous more minute species, heretofore unseen and unknown; yet not indifferent, we may well believe, to those higher animals, even the highest, which breathe air on the surface of the globe.

Another result of recent inquiry has been our increased knowledge of Entozoa, and of parasitic life generally, both animal and vegetable in kind. No natural phenomenon more curious than this. A few examples, seemingly rather deviations from nature than a part of it, formerly comprised all we knew on the subject. Now we may fitly term it a branch of natural history in itself, so numerous are the instances, so definite the relations it involves. When we find even the earth-worm haunted by a parasite (the *Gregarina*) living within and upon it; and numerous mollusks and insects, with entozoa pertaining to each, we gain some idea of the extent and singularity of these relations. It is not an anomaly we look upon, but a part of creative intent;—an expression of that great design which makes organized life in one form everywhere subserve to the maintenance of another. Exception may perhaps be taken for those species of parasites which are found in diseased animal textures, and in such alone; as we recognize them in morbid states of which man himself is the subject. These curious cases have been brought, amongst others, as seeming to sanction that hypothesis of equivocal generation, of which we shall speak hereafter—the disease itself being regarded as antecedent, and the parasitic life as growing out of it. It would be difficult to bring any positive proof on this point. It is one reserved for future research; as are those strange, analogous phenomena, which seem to show that the same ova or parasitic germs, transferred to different organic textures, are capable of evolving different forms of animal life. Minute though these objects are, and inaccessible to all unaided sense, there is no part of natural history which strikes deeper roots into the secrets of the living creation.

Rising higher in the scale of existence, we find in all the classes into which zoologists

have distributed the animal kingdom, the same astonishing augmentation of numbers; less indeed as we reach the higher classes, but even among the Mammalia trebling the number within the time we have named. The birds and fishes made known to us have been still more multiplied; while of insect genera and species, the ratio of increase is such, that calculation can hardly follow it. A commission sent out to Brazil for beetles alone, is sure to bring back from that country, so profusely swarming with animal life of all kinds, many species before unknown to the European naturalist. The cases of our museums are replete to overflowing with these new insect forms from every region of the globe; certainly far exceeding one hundred thousand in their total number. The British insects alone have been catalogued up to twelve thousand:—the Coleoptera in the collections of Duport and Baron De Jean, at Paris, amount to more than twenty thousand species.

This augmentation, however, must be qualified by the fact, that numerous individuals have been named as species, which are not really such. The species has been recorded, where it is only the specimen or variety we have in our hands. How far reduction may be carried on this score, it is not easy to say; but probably not far, in proportion to the additions made by the recent labors of naturalists.

But we take an imperfect view of life, as it exists on the earth, if attending only to the number of species, vast though this be. The numerical *individualities* of different species—their *richesse effrayante*, to borrow a phrase of Cuvier—is yet more impressive to the reason and imagination. A single swarm of insects, or a shoal of herrings, would in simple numbers represent a populous empire. Without wishing to malign a popular English institution, we might quote the white-bait dinners of a Greenwich season, as affording some practical idea of the numerous demand which the human kitchen makes upon one rare species. And what is this to the amount of life which the whale imbibes and annihilates at a single draught? What estimate of numbers can be put upon the flies of Egypt, or those continuous clouds of locusts, which for days together darken the sky, and devastate the fairest regions of the earth? Instances of this kind might be given without end; each recording the same marvellous profusion

of individual life, made more wonderful by the rapid succession of generations as we descend in the scale of being. Take the single instance of the Aphis. By the most certain calculation of the rate of production in this minute creature (weighing scarcely the 1-1000 of a grain), it is found that the successive generations from a single Aphis in one warm summer, might amount to a *quintillion* of living beings—a number so much above all human uses or understanding, that it offers but a vague row of cyphers to the eye. Or take Ehrenberg's estimate of the one hundred and forty billions of infusorial animalcules contained in two cubic feet of the Tripoli slate of Billin, of which rock their siliceous cases form the substance; a wonderful aggregation of *individual lives*, however we may interpret the grade of being to which they belong.

Our wonder at these things may well be mingled with some degree of awe. For it is impossible to regard them without seeing the great and mysterious problems they put before us. What is, to our reason, this vast design, of which such myriads of separate and successive living generations are the interpreters to our sense? This question, and others collateral to it, are forced upon us almost as a necessity of thought. We see no way open to their solution. That there is a design,—that it is not accident, or a blind necessity, which evokes and maintains this world of life around us, need hardly be dwelt upon as matter of argument. The marks of law and mutual relation—of purposes fulfilled by organization and instincts—are so indelibly impressed on the whole, that no seeming exceptions or anomalies can weigh for a moment against them, or leave a doubt as to the unity of plan, and its derivation from a higher source than physical science can reach. There is no neutrality in this question. To doubt is to cease to reason at all.

But in recognizing this supreme creative power, of which to our reason Man is the highest exponent, we are far below any comprehension of the great scheme in which we occupy this place. The question we have stated still presses upon us, as to the design of this profuse variety of life on the globe, so far beyond all reckoning of number or thought? It is easy to gather vague replies from those who look but on the surface, and indulge the belief that all these things were made for man, and his supremacy only. Such



cannot be the belief of those who have read the book of nature fully and fairly. This great volume, while ever multiplying the proofs of power and design, inculcates a more humble interpretation of them; instructing us that we can approach the question through negatives only, which leave us far short of the solution sought for.

The most important of these negatives, undoubtedly, is that just alluded to, forbidding the notion that all life besides on the earth was created for the uses of man. We should scarcely stop to argue this matter, were it not that one or two particular points of proof have an interest beyond the simple terms of the question. The first of these is, the certain evidence, in the long series of fossil remains, of successive periods of animal life, so far anterior to man, that no calculation of ours can measure or approach them. Their various forms, from the minute Infusoria, the shells of which compose the mass of many of our existing rocks, to the huge and strange aspects of the Oolite and Weald reptiles, and the endless other varieties which now fill our catalogues, were doubtless adapted to the successive conditions of land, sea, and air in which they had their life. But no reason or plausible hypothesis can bring into connection with the human race these tenants of an elder world. We may recognize the fact that the forests of these remote ages gave origin to the beds of coal, which, for the last two hundred years, have ministered so largely to the uses and powers of man. But we cannot equally apply this argument to the animal creations which have preceded us. No more direct relations than those of type and structure connect, as far as we can see, this ancient animal life with that of our own day. No purposes or final causes can be assumed as a necessary link between them. Any notion of *tentative acts* of creation must at once be put aside. To say nothing of the change it makes in our conception of the Creator of all, such notion is wholly contradicted by the actual gradation and intermixture of life in these successive epochs. That creatures of higher organization are found in the later than in the earlier periods,—and, highest of all, in the existing world,—is well assured as a fact. But this fact is limited to a general denotation of progress. The steps in the series are blended and broken, and Man walks the earth surrounded by beings as low in the order of

life as any which the first fossiliferous rocks disclose to his sight.

This argument is drawn from the ancient part of creation. We take another from that part of it nearest to man; if not in date of time, of which we are ignorant, yet certainly in all that relates to physical organization and intelligence. We allude here to the Anthropoid Apes; and very especially to the great Chimpanzee (the *Troglodytes Gorilla*), to which the attention of our most eminent naturalists, Owen amongst them, has of late been much directed. Certain definite differences of structure, the nature of which precludes any sort of progression or transmutation, leave Man still single in species and genus in the existing animal world. The creatures, thus far approaching him in physical features and certain intellectual functions, have no relation to him besides, save as the very rare and short-lived tenants of his zoölogical collections, where they are gazed upon for a few months by the curious, and then pine away and die. They are few in number; inhabit very limited spaces; are seldom seen by man in their native haunts; and minister to none of his uses, directly or indirectly. They might altogether disappear from the earth without leaving behind mark or memento of the change.

An instance, thus special and significant, renders needless the many and obvious proofs which might be drawn from other and lower parts of creation. In fact, we only touch upon this subject as a part of that great problem of life upon the earth, which is now deeply engrossing the philosopher, as well as the practical naturalist, under the shape of questions far better defined than in the earlier ages of human speculation. That the great design of the Creator on our globe extends beyond, and comprises more, than the mere present existence of man upon it, may be fully urged, without degrading the latter, or altering his place in the scale of created beings. Highest in organization—supreme in intellect and the moral sense—ministered to in every way needful both to his bodily wants, and to his higher feelings and sense of beauty, by nature animate and inanimate around him—capable of raising himself, by his faculties of sense and imagination, far beyond the world he inhabits—this is a being whose nobility cannot be degraded, or his high destiny annulled, by admitting that the earth is not a dwelling-

place for him alone in the purposes of creation.

Nor is our conception of the Divine Creator of all narrowed or otherwise impaired by this recognition. He has given existence to man. He has given life to countless other beings, inferior to man, but independent of him. To confess our utter inability to say why these things are so, is but to add another to the questions inapproachable by reason, and which it is our best wisdom to recognize as such. We are sure that there is design, wise in itself, and certain in its fulfilment. The doctrine of "final causes" has incurred discredit, not from any inherent fault as a principle of reasoning,—for this is unimpeachable,—but from the rash endeavors to carry it beyond the bounds of just induction. Of final causes, properly so termed, some are assured to our knowledge; others are fairly open to future discovery; others, again, are in their nature a closed volume to human research.

We come now to another class of questions respecting animal life, more special in character; questions which have been, and yet are, the subjects of warm controversy, and strikingly illustrate the spirit of modern inquiry. We allude to those regarding the true nature and definition of species;—their capacity for change or transmutation;—the existence of types in the different grades of animal life;—the relations of date or order of succession of those several types, genera, and species;—their connection with different geological periods; and, lastly, the manner of generation or reproduction; so essential a part, as we have seen, of the definition of life itself. All these questions are closely allied; yet each is so large in its objects and details, that volumes have failed to exhaust the argument. We shall take them up chiefly on points which may best show the character of the controversies to which they have given rise. That some of these controversies have been carried on with anger and bitterness can scarcely create surprise. The new doctrines put forward have in many ways contradicted harshly the opinions held heretofore; and the offence to the sober-minded adherents of these opinions has been increased by the bold and dogmatic tone which some of their opponents have assumed, and the ultra-conclusions to which they have pushed their material hypothesis, of which Lamarck and his school furnish the most flagrant examples. To this it

must be added, that these discussions, more than any other, deeply involve the relations of Man to the rest of the living creation; verge on various points of religious belief; and in these respects well explain the earnestness given to their pursuit. In what we have to say of them, we shall seek to put each topic in its simplest form, and to deal with all impartially; as questions which science has raised, and for the solution of which we must look to science, where the matter does not transcend all human reason.

First, then, among these questions comes that of the nature and permanence of Species, as distinctive of the different forms of animal life, from the highest to the lowest. Our scientific readers need not be told how warmly this question has lately been agitated by naturalists. The controversy, which had its birth in France, and there provoked personal animosity as well as scientific dispute, was translated to England in a mitigated form; but has here also stirred up the depths of an argument, stretching beyond the limits of former inquiry, and liable, in some part, to the imputations of which we have just spoken. The laws which have governed the creation and succession of living beings come at once into the question; while the doctrine of transmutation of species regards man himself as a possible development from forms lower in the scale of life.

The whole argument, in fact, concentrates itself on this point. Are Species—best denoted as such by sexual character and the power of propagating their like—to be considered fixed and immutable as they came from the hands of the Creator, or subject to such variations only as tend always to return to the original type? Or is there an inherent liability to or faculty of change, either from accident or the operation of common laws, which can, and does, in the course of time, create new species out of antecedent ones;—an extension in effect, and higher result, of that principle of change by which varieties and races are brought into existence? The great name of Cuvier appears in the foreground on behalf of the former opinion; Geoffroy St. Hilaire made himself the chief of the opposite party. In England, the transmutation doctrine first gained currency through that well-known work the "Vestiges of Creation;" and has since been espoused by other writers of greater or less reputation. Many

of our most eminent naturalists, our geologists especially, have entered with earnestness into a controversy rendered inevitable from the progress of their science, and the new classes of phenomena coming before them. Looking generally on the conflict as it now stands in this country, we see distinctly a predominance of opinion for the fixity and permanence of species. But at the same time we notice a certain cautious reserve in announcing any absolute or final opinion on the subject; an effect doubtless of the ambiguities which still surround the question, and the difficulty on each side of reaching other than presumptive proof.

The *onus probandi*, however, unquestionably rests with those who believe that species can undergo such transmutation, as permanently to change those conditions upon which the distinction has naturally, or even necessarily, been founded. It is their business to show some unequivocal instances of perfect transmutation; or, in default of this, some such approach to it, by gradations manifestly progressive, as to warrant the presumption that time only is wanting to complete the change. Less than this cannot be received in evidence of fact, however plausible an hypothesis of possibilities may be made to appear. The limit-line drawn around each species by its power of self-reproduction, may not be broken through without proof far stronger than any yet proffered to us. No single unequivocal instance has hitherto been obtained from any part of the animal kingdom to satisfy these conditions. Certain ambiguous cases in the lowest classes of life, which seemed in part to do so, have been discovered to belong to peculiar modes of generation, of which we shall speak hereafter. The question thus becomes one of possibility and presumption only. Possibility cannot be denied; but the advocate for the permanence of species, resting upon much that is assured to his knowledge, has a right to ask that the opposite doctrine should be fairly fortified by fact, before its admission even as one of the outworks of science.

The arguments for the transmutation hypothesis are, mainly, the variations which species actually undergo; and which in many cases, especially where man is the artificer of new breeds, become fixed and hereditary;—the fact that in a certain number of instances the intermixture of species is prolific;—the exist-

ence of certain archetypes, or general forms, upon which specific forms are founded;—and the tendency of all research, in the fossil as well as living world, to bring the gradations between these forms into closer contact; filling up, more or less, thereby the void places which occurred in the series of genera and species before known.

Other arguments there are, but these lie at the root of the question, and may be taken *instar omnium*. In pursuing the controversy, one party has found it needful to assume, and the other to allow, an unlimited license as to time. We do not go over the geological proofs as to this matter, now become so familiar to all. It is enough to repeat, that prior to man and all the creatures occupying the world with him, there have existed on the earth several successive and separate conditions of animal and vegetable life, as faithfully recorded in the rocky cemeteries below us, as if they were the creation and destruction of our own day. Though the order of succession is distinct here, no human estimate can reach the period of time these successions involve; so vast is it, and so broken by intermediate changes, to which no measure can apply. In one sense then, that of the existence of life on the earth, time has no numerical limit which we can assign. But the advocate for transmutation of species must take it, subject to a question as to the nature of these intermediate changes or catastrophes. If they be such as to close one epoch of life on the globe before the creation or commencement of another, then the argument, as far as time is concerned, must be limited to that latest epoch in which we are now placed. Many of the *gaps* in the structural scale have been filled up, indeed, from the fossil remains of former periods; but, until some series can be shown connecting these periods together without breach of continuity, the hypothesis of development or transmutation cannot fairly borrow time from these anterior epochs, for the changes it presumes.

Nor does it really lose much by this limitation. The fossil remains of former ages of life afford no evidence as to transmutation of species, which may not as plausibly be drawn from the existing animal creation. We find the same general types of structure, declaring to our reason the *unity* of the creating cause, but evolved under many and singular diversities of form; with the special fact superadded,

that the species of each epoch are peculiar to itself. Different species more or less approximate to each other; but in none of these periods do we find any such series as to indicate an actual passage from one to another, or any thing more than this proximity, itself expressed in all cases by the same special forms and relations of parts.

There is, however, one point of connection between these periods, which bears in some sort on the question before us. We allude to the fact—indisputable in itself, and deeply interesting in all ways—of the successive appearance of higher types of organization and conditions of existence, in rising from the earliest of these epochs to that in which we have our own being. We shall revert to this topic hereafter, and notice it here only to show that it does not sanction, or even favor, the doctrine of transmutation. There is no regular gradation either as to time or type, as the theory would require. New and higher forms of life come in with new epochs, and continue to be associated with the lower types that before existed. Recent research has carried back some of these higher forms into geological ages more remote than was once supposed their limit; and this may go yet further. But it would not then, more than now, affect the argument we are holding.

The existence of such common types or *plans* of structure, extending throughout the whole domain of life, and giving foundation to all special forms and varieties, may seem at first sight to furnish some valid argument for transmutation; and the rather since these types are found in one sense to graduate into one another,—the individuals of higher type, through the several great groups of the animal kingdom, going through certain stages of those lower in the scale, even down to the single germ of the Protozoa, before reaching their final and special organization. Of this very curious fact, the human structure itself is an example; a fact not neglected by those (and, strange to say, from paradox or petulance there are such) who love to degrade man in the scale of being. The attempt is futile as it is malignant. The Protozoon stops at his destined place in the lowest scale of being. Man reaches by definite steps the high organization which is designed for him. Each of these, and every species intermediate in the animal world, attains, and is arrested at, the point marked out for it in the long line of created life.

The whole subject of types is one of the deepest interest. The peculiar doctrines of St. Hilaire led him to refer all animal life to a single primitive type only. Cuvier, followed by the far greater number of naturalists, has denoted four as absolutely marked and distinguished in nature. Subordinately again, or included within this theory of types, comes the more recent doctrine of Homologues; teaching us the relations of equivalent parts of structure throughout the animal world. A fine conception of Goethe—half poetry, half philosophy—became, under what we will not call the sober inquiry of Oken (for the genius of Oken has no mark of sobriety upon it), but became by his research and that of other naturalists, an integral part of natural science. Had we space for it, we should gladly put before our readers some account of the valuable contributions of Professor Owen to this curious branch of knowledge;—the researches by which he has confirmed the view of the Skull as an extension of the vertebral column;—and his remarkable work on Limbs, in which portions of structure in different animals, seemingly the most unlike in aspect and use, are all resolved into a common relation to the same part of typical structure. These things must be regarded not as mere naked facts, but as the interpreters to our reason of an Almighty design, in action from the earliest ages recorded in the rocks below us, of which Man himself, highest and foremost in the series of types appears to our present view as the consummation. But we have no right to dogmatize upon that futurity of time and event which stretches so far beyond all human comprehension.

From the system of types, however, the advocate for transmutation of species can draw no fresh argument for his doctrine. It is still a series, more or less complete in its parts, of which each member or species, in past as well as present periods, has its defined and specific characters; and continues to have them as long as its existence comes within our view. The type, whether general or particular, represents to us certain common outlines—*ideas*, we are tempted to call them—in the scheme of creation, to which these separate members belong as individual parts. Were there any thing like transference, or gradual transmutation amongst them, we might expect to have our catalogues crowded



with instances of such transition, in every stage and aspect of its progress.

This brings us at once to what is a main argument in the matter; viz., the variations which actually occur in living species, and which strongly tend to become hereditary, if the causes of variation be continued. Examples to this effect are so numerous and familiar that it is needless to cite them in detail. They occur most strikingly among animals domesticated by man, or bred for his uses or pleasures. But they are produced also by variations of climate, food, and other physical conditions;—sometimes also by those more mysterious influences of generation, of which we can say little more than that they exist. In man himself these varieties take their highest, and perhaps most heterogeneous, character. They are testified especially in the difference of races; a distinction so strongly marked in particular cases, as to have led some naturalists,—erroneously as we believe,—to refer it to an actual diversity of species. That strangely familiar friend of man, the Dog,—*ad hominum commoditates generatus*—produces varieties scarcely less numerous and remarkable. An eminent French naturalist has stated that if he were to reckon as species the different breeds of this animal, we must carry the account above fifty. The extent to which such deviations may proceed, and become hereditary in a race, is one of the most curious inquiries in natural history; and well deserves to be diligently pursued in connection with the subject of Animal Instincts, to which it is closely related. We cannot doubt that there is a natural limit to change in each particular case; and we think it probable that the deviation, though differing in different countries and communities, has long since reached its maximum in the animals bred and domesticated by man.

Even here, then, the advocate for transmutation fails to make good his case; since it may almost be affirmed that the particular capacity for variations in each species form in itself a *specific* character. These varieties or deviations are not changes of species, but changes *within* them; and, with few and ambiguous exceptions, are confined within limits which the law of reproduction of species strictly defines. This law, in truth, comprises all the cardinal points of the question. It is a natural definition put before us, and so

strongly marked, that the argument as to design might well be made to rest on this alone. If an instance could be brought of the intermixture of two species in generation producing a fertile offspring, capable of breeding with *similar hybrids*, or otherwise perpetuating the physical changes induced, the law would doubtless be impugned in its generality; and the disciple of St. Hilaire might urge the possibility of numerous such instances, if time and chances be taken into account. But we doubt much whether, in the animal kingdom at least, an unequivocal case of this kind really exists. It may be admitted that certain hybrid species—the equine, canine, and, possibly, but less certainly, some other animals brought closely under human culture—are to a certain extent prolific. But the true hybrid does not propagate with the hybrid; and its power of propagation, even with the perfect species, is very limited in degree, and soon comes to an end. This argument, then, for transmutation halts on the very threshold. It makes a certain fair promise, hitherto unfulfilled in the result; and duly examined, may even be appropriated for the opposite conclusion.

The sexual relations cannot be omitted as a point of this question. Weighing fairly all the circumstances—and, and amongst others, the *period of gestation*, which, even in the cognate species of the dog and wolf, is widely different—it appears almost certain that no real or permanent change of species can take place without a concurrent mutual adaptation of the two sexes in its progress; a contingency so improbable, seeing all that is required, that we cannot but regard this as one of the most cogent objections to the doctrine before us; and meriting more attention than it has usually received.

A word or two more must be said in regard to the varieties in species themselves. Strictly speaking, these are not structural differences; but variations in size, configuration, integuments, color, and other external conditions, subject in each case to limits which they cannot transcend. The despotic folly of a Prussian monarch might breed, as well as steal, gigantic soldiers for his guards; but could not change in a single particular the anatomical characters of the men thus forced into his ranks. We have before referred to the dog. With the exception of a slight change in the bones of the hind foot in some breeds (the

maximum of variation, as far as we yet know, among animals), its bony structure and internal organs are the same under all its numerous varieties. The teeth, now so important a diagnostic mark, are alike in all. Its animal instincts, though much modified, or sometimes even suppressed, by human culture, are essentially the same throughout; and the dog himself well knows his own species, whatever varieties it assumes. It is needless to cite other instances, as they all correspond in their bearing on the question before us.

A point upon which stress has been laid by the disciples of Lamarck is the close approximation of the Anthropoid Apes to Man; warranting, according to them, the notion that the lower may here have passed into the higher grade of being. Admitting the similitude to its full extent (the *Simia quam similis!* of the old Latin poet), it is still but the mark of closest proximity in the scale. The evidence, either anatomical or of other kind, as we have already mentioned in speaking of the Chimpanzee, goes not a step further. And against the transmutation hypothesis here, we have the fact, distinctly stated by Owen, that the osteological differences between these animals and man are of such a nature as to be insusceptible, from any known external causes, of the changes required to accomplish the supposed transmutation. This supposition, then, we put aside as one utterly without proof.

The arguments we have been using for the fixity of species will be familiar to many of our readers. But there are others to whom the question has come only in a crude and general way; and to these it is well, seeing how deeply it strikes its roots into the mysteries of creation, that it should be presented in such form, as to make clear the distinction between what is vague speculation only, and what the sound induction of the best naturalists of our day. We use the word *vague* here, as very descriptive of the manner in which the doctrine of transmutation is propounded to us. There has been no common understanding as to the foundation, or first steps, of the scheme supposed. With some (but these happily few) it is a notion of gross materialism altogether. Genera and species of living beings come into existence through undefined combinations of matter, and are mutable without limit from material causes

acting upon them;—or, as some prefer to phrase it, from a *visus* of the animal itself to attain new scope and powers of existence. Others, more modest in their assumptions, have supposed certain original created forms, capable of gradual development into new species, unlimited in variety, if unlimited time be given to work the transformation. We cannot reasonably require any positive date as the foundation of this system. But we may fairly complain of the vague asseveration on which it is built. We have a right to ask for some denotation, however general, of these primitive beings, the parent stems of the genera and species we now see around us. The doctrine of types, as already explained, furnishes no reply here; nor to the questions we have a further right to ask, whether any of the primitive forms yet remain in existence as such? or whether the principle of mutability is now exhausted in power, and the existing genera and species represent a scheme of transmutation worked out to its end? Other questions might be asked, some of them already alluded to; showing how vague the hypothesis is in its first principles; and how little fitted, by any present proof, to meet the demands of a sound inductive philosophy.

In arguments of this nature, it is of great value to obtain such instances as are not only indisputable in themselves, but extend their conclusions to other kindred cases. The Electrical Fishes have always appeared to us to furnish a striking example of this kind. If there be any case to justify the notion of a primitive stem branching off progressively into different species, we should expect to find it in animals gifted with this very peculiar power. Yet any such notion of original unity is refuted by facts. The electrical apparatus itself differs so much in these animals, that we lose the inference from common quality in this diversity, and must follow other structural differences in proof of their separate origin as species. The argument is analogous as relates to the Poisonous animals, whether reptile or insect in kind. The differences of the poisons themselves, and of the parts instrumental to them, are such as to annul all idea of primitive community of species, even in the case of the venomous serpents, where it would be most natural to expect it. The same reasoning might be applied to the Luminiferous animals; and to many other cases, where some

special property or provision pervades many species, yet leaves distinct the individuality of each.

We might find a further argument in the different figure and size of the blood-corpuscles in different animals;—a very curious subject, but not yet enough explored to furnish any certain inferences. The reasons we have stated, however, are, we think, sufficient to justify the belief, not indeed in all that have been denominated *Species* (for doubtless many duplicates and varieties are catalogued as such), but in the fixity and permanence of the vast majority so recorded. No sound reasoner will raise an objection in the multitude thus supposed distinct in their origin. Whether we look to the great or small in creation,—whether to the stars of heaven, or to the infusorial animalcules of our own globe,—equally must we regard *number* in the hands of the Creator as a thing wholly apart from our own feeble and limited conception of it. The miracle to us is the *act of creation* itself. This recognized (and can it be other than recognized?), the exertion of the power is subject to no artificial limit of ours. A hundred and a hundred-thousand are the same to all actual or possible comprehension of the matter.

We have already spoken of the certain design in the vast and various profusion of life spread over the earth at successive epochs; and we may now advert to another case, where designed progression is obvious to our reason, though in a different sense from that of progressive transmutation, and lending no authority to that hypothesis. This is the fact—already adverted to, and well authenticated—of the successive introduction of higher forms and attributes of life into the series, as time has moved onwards through the ages anterior to our own being on the earth. From the period when the Cephalopoda were supreme in the animal kingdom, to that when Man became its head, we have a series of types, each rising in organization, of which Fishes, Reptiles, Birds, and Mammals represent the most remarkable forms. Any controversy as to this point has arisen solely from certain seeming irregularities of such succession; these higher grades of life coming in without any apparent conformity to our measures of time or relative change. But the main fact is in no way impeached by this irregularity, and *intention* is on the very face

of it. Making every allowance for our inability in many cases to say which of two proximate organizations is the highest or most perfect, we cannot doubt as to the relative character of the fossils of the Silurian and Devonian ages, and that of the Oolitic remains, where the Mammalia first come into view;—nor, again, can we hesitate as to the relation of Oolitic life to that of our own day.

We may quit this subject with the general remark, that if transformation of species be ever proved, it will probably be so in the lowest forms of animal life, where the organization is of the simplest kind, and where the functions seem limited to mere maintenance and reproduction;—the latter, moreover, effected in some of them by means very different from the analogies of higher animal life, and more akin to the characters of the vegetable world. Even here no actual transmutation has yet been made known; and the argument we have been stating remains therefore still untouched. But we are bound to add, that very able research is still in progress on this question of the true definition and limitation of species; directed chiefly through the phenomena of breeding and hybrids, as the most legitimate channel of approach to its solution.

All these topics have close mutual kindred; and we have taken advantage of this to bring into the foregoing argument several collateral questions illustrating the vocation and spirit of modern science. We now come to another topic, linked into the same chain; viz., that of spontaneous or equivocal generation;—the question whether new species are still brought into existence, or have been so, within what may be called the *human period* of life on earth? We know that certain species have utterly passed away within this period; and that others are in assured progress towards extinction. Man himself has been largely concerned as the agent in these changes, whether of diminution or annihilation; but physical conditions have also doubtless had effect. Is there any thing in the nature of an equivalent to them, by new acts of creation, or by spontaneous production of fresh life? Here again we are without a single fact in absolute proof. The extinction of certain species (and these, as far as we know, exclusively of the higher animal orders) does in no way imply the creation of others; and the only affirmative presumptions that can be

offered are drawn from those minute and obscure forms of life, whose sexual distinctions are little marked, and the functions of reproduction of unwonted kind. Accordingly we find that those who express this belief (and they are chiefly, as might be supposed, of the material and transmutation school) dwell much upon the Entozoa; and yet more on the appearance of animalcule life in various artificial compounds of organic matter, under forms peculiar to each. The latter fact is incontestable as it is curious. But the conclusion from it must ever be ambiguous; seeing what we know of the wonderful retentiveness of reproductive power in the ova or germs of such animalcules. We may readily conceive the continual presence of these invisible elements of life in the earth, air, and water around us, ready to start into form the moment the physical conditions are present which can give them their proper *habitat* and nutriment. Many analogies in the vegetable world familiar to naturalists favor this view; and none, as far as we know, contradict it. The argument for spontaneous generation from the Entozoa is refuted by the fact that, with the exception of a few species which propagate by budding, they have all male and female organs. The Polygastric Infusoria have been brought in to support the doctrine. But in all the varieties of these animalcules there are fixed and invariable forms; and these, it may be added, closely assimilating them to the fossil infusoria, which existed ages ago.

Thus far, then, the opinion rests on very slender authority. We may add one argument, not usually quoted, yet as valid as any of the foregoing; viz. those new forms of epidemic pestilence, which from time to time have appeared in the world, devastating whole continents in their progress, and depending, as we are much disposed to believe, on organic and living matters diffusing themselves as the virus of disease. In no other way, as far as we can see, are these wandering pestilences to be accounted for, than as derived from a *materies morbi*, capable of *reproducing itself*, and therefore coming strictly under the character of life. But here, again, admitting this view, we cannot affirm that the germs may not have existed for ages before, awaiting development; and the argument therefore, is as vague in proof as all others which bear upon this question.

We pass here, by a short step, to another

topic; one of the most interesting, but most obscure, in natural history—that of the reproduction of life. Modern science, active as we have seen in its interrogation of all nature, has eagerly explored this subject, and obtained many new facts and conclusions; but none which give a key to the ultimate mystery of life propagating similar life. The steps made are all intermediate; in no sense are they final or complete. We may refer, for example, to the recent discovery, due to the microscope, of the cell-structure, as the first distinct development of individual life, and the rudiment of future growth, both in the animal and vegetable world. In the zeal with which physiologists have adopted and pursued this discovery, there has been somewhat too high an estimate of its real value. The fact, indeed, is both curious and unexpected; but it carries us onwards by a single step only. Cells themselves, with whatever nuclei they may contain, must be derived from some more primitive germ or aggregation of matter; and when we read of *cell-force* and *cell-growth*, we have reason to ask what these terms really convey to us. The conception is even easier of growth from minute vascular structure, than from cellular aggregation; but both conceptions leave untouched the great problem of generation; the assumption of infinitely different, but perfectly definite forms, from rudiments thus simple, and seemingly similar. We feel that there is something beyond, which no hypothesis, however bold, can cope with:—that we are far below the level of that mysterious principle or power, by which the life of individuals and species is elaborated and maintained, generation after generation.

Modern research into these phenomena has not been limited to the discovery of formation through cells. Other strange facts and seeming anomalies, in some part indicated by earlier naturalists, have been subjected to more exact inquiry; and, had we room for it, we might state many most curious results, particularly as regards those phenomena which the observations of Steenstrup and others have disclosed to us. The Greek, “that musical and prolific language of ancient philosophy,” has been drawn upon so largely for scientific purposes in our own time, that we cannot quarrel with such terms as *Metagenesis*, *Parthenogenesis*, and *Agamogenesis*, though somewhat ostentatious as applied to



the most minute objects in creation. They serve to betoken what are indeed very strange and complex modes of reproduction; in which the sexual influence, though not lost, and in some part and form always necessary, yet is, in certain cases, so wonderfully concentrated—*concreted* we may express it—in the organization, that a dozen generations may be evolved in succession, without any renewal of the male influence in reproduction. This fact has been amply established by experiments reaching as far back as the days of Reaumur and Bonnet, and is well exemplified in the instance of the Aphides; the diversities of which—viviparous or oviparous; winged or wingless; alternating or without obvious rule of succession—offer a multitude of problems to sober, as well as to speculative, thought. This budding forth of a germ principle through successive generations from a first single fertilized germ, while closely connected with the principle of animal metamorphosis, is the fact which more than any other forms the link—very difficult here to dis sever—between animal and vegetable life. The Entozoa, Polypi, Medusæ, etc., all enter into and illustrate this great natural relation. The phenomena of fissiparous generation variously and strikingly attest it;—those curious cases where entire and repeated division of the animal does, under certain limitations, reproduce the perfect form in each of the divided parts. In some of the Infusoria, the problem is further perplexed by a double manner of generation through ova, and by self-division of the animalcules themselves.

All these things, and others equally wonderful,—such as the modes of parasitic or complemental generation described by Mr. Darwin in his Monograph on Barnacles—may well astonish those who come unprepared to the subject. In reality, there is nothing more unintelligible here than in the familiar facts of ordinary generation, nor more wonderful that what we before knew as to the economy of other animals higher in the scale of creation. The modes of reproduction of the Bee (especially as last developed by the researches of Dzierzon and Van Siebold) may be taken as a representation and epitome of all that is most marvellous in this great function of life. The true mystery, as we have already said, lies deeper, and is equally associated with every variety and aspect of these phenomena. It is one of the many cases in science and

philosophy where familiarity gives a semblance of knowledge; satisfying the shallow inquirer, but otherwise estimated by the more cautious seeker after truth.

Another topic of eminent importance to all our views of life, and the economy of living beings, is that of Animal Instincts. Much has been observed, thought, and written on this subject; but less connectedly and systematically, we think, than its interest requires; nor can we name any one signal discovery of our own time in contribution to this part of natural knowledge. Facts have been multiplied and better defined, and the structures serving to the fulfilment of instincts more carefully explored. But the great problem here remains as entirely unresolved as in the earliest days of ancient philosophy. What is the source or proximate cause of those actions—definite, peculiar, and permanent in each species—which we call *instinctive*, as distinguished from the acts of reason and intelligence? The main points of doubt, speculation, and controversy are all concentrated within this question. It involves one which in some sort is precursory to all; viz., the reality and nature of the distinction between reason and instinct; faculties so closely bordering on each other, and often so blended in the same acts, that it becomes difficult to distinguish or dis sever them. To obtain a just definition, we must look at the more simple and extreme cases of each. "The absolute hereditary nature of Instincts,—their instant or speedy perfection prior to all experience or memory,—their provision for the future without prescience of it,—the preciseness of their objects, extent, and limitation,—and the distinctness and permanence of their character for each species" (we quote from a volume lying before us), are the more general facts upon which we define true instincts, and contradistinguish them from the acts of mind and reason. These two great faculties may be said to exist in inverse ratio to each other throughout the whole scale of animal life. Where intelligence is highest in power and effect, instinct is lowest and least in amount. It augments progressively as we descend in the series; and at some point, hardly to be defined, seemingly embraces and gives origin to all the acts of animal existence.

The only probable advancement, as far as we can see, in the theory of Instincts, will be through such researches as may determine

their more exact relation to reason in the same individuals or species. The very blending and intermixture of the faculties in the higher order of animals, while it perplexes in some points, does in others offer the chance, if not the certainty, of illustration to both. Without undermining the distinction between them by metaphysical subtleties, we may well admit that the questions they suggest are in great measure the same in kind, and of like difficulty in solution. The method of research we suggest through these common relations, though often touched upon in part, has never been explicitly and systematically pursued. It would require varied experiments, as well as minute observation. It must of necessity be an assiduous labor, and divided among many; but also a labor of high interest and aided by numberless facts already ascertained, but not yet collated or reduced to order. A systematic work on Instincts is still wanting to us, derived from every part and province of animal life, and carefully brought into relation with those various degrees of reason which animals possess. Such a work, even partially completed, would undoubtedly supply fresh material to physical science and philosophy.

Associated, though less closely, with the foregoing topics comes another inquiry, which has earnestly engaged the naturalists of our day; viz., the manner of distributions of the types, genera, and species of animal life over the surface of the globe. The diversities of such distribution have long been noticed; but to botanists, and especially to Decandolle, we owe the first clear conception of geographical provinces, within which are located certain predominant typical forms, diffusing themselves as from a centre; arrested in some cases by the intervention of sea or land; in other cases mingling on the border with the types and characters of other provinces. In animal life also we find this local distribution strongly marked; and though its boundaries are still somewhat vague, and the number of provinces not fully defined, we are sufficiently assured of the fact to reason upon it as a part of the living economy of the world. And a most curious fact it is; connected as we must necessarily regard it, either with the original conditions of animal creation, or with those great revolutions of the earth's surface, recorded by geology:—those mighty interchanges of land and ocean, by which continents have been raised or submerged, climates

changed, and all living nature brought into subjection to this elemental strife.

Australia is generally, and with much reason, quoted as the most striking example of this local limitation of forms, both in animal and vegetable life. This strange Continent—scarcely known ninety years ago, now the flourishing seat of British Empire in the Southern hemisphere—stood, when discovered, in a sort of solitary contradiction to the rest of the known world. Of four thousand one hundred species, forming its earliest recorded Flora, only one hundred and six were found elsewhere. The Eucalyptus and leafless Acacias, in their numerous species, gave a sombre hue to its scenery. The habits of the marsupial animals, with other strange configurations of animal life, gave an eccentric and paradoxical character to the creatures which inhabited it. The Galapagos Isles, so well described by Darwin, furnish another example, even more striking from its limitation. These isles (volcanic in formation, which adds to the singularity of the case) are only six hundred miles from the South American coast, yet form a distinct province, both in their Flora and Fauna; with scarcely a single organic production which is not aboriginal in species, and unknown elsewhere. And, as in Australia, we find sub-provinces on the eastern and western coasts respectively, so in these isles there are two which differ much in their productions from the rest, though alike in all obvious physical conditions. South America itself is the peculiar domicile of the very singular order of Edentata, or toothless animals, which are here found both living and fossil; while north of Mexico they are unknown except in the fossil state. The Sloth, that strange and grotesque member of this order, and the Armadillos, are found in America only. New Guinea, with some island groups to the east, forms a particular zoological province, singular from being destitute, with one exception, of all warm-blooded quadrupeds. The Elephant, Rhinoceros, Giraffe, Hippopotamus, etc., are limited now to certain portions of the old world, though their fossil remains are much more widely diffused. The marine animals, much more vaguely of course, give evidence to the same fact of local limitation; and even lake and river fishes demonstrate it, narrow in comparison though the spaces are which they occupy. We may seem to understand why the Salmon, found

in all countries bordering round the Arctic Circle, should nowhere exist in the Southern hemisphere. But how are we to explain the different families of fish, found by Agassiz in each of the great fresh-water lakes of North America, connected as they are by a common river? or how the fishes peculiar to the Ohio and many other rivers? or the species limited in existence to some of our own lakes? Or why should we find in some mountain pools near Killarney a molluscous animal not known elsewhere in the world.

Such instances, which might be endlessly multiplied, show how curious are the problems belonging to this part of natural history; and how perplexed in every part by the doubt of what may belong to a primitive geographical distribution of created beings:—what to the revolutions of the surface of the globe, paroxysmal or gradual, which have since intervened. The argument for the former, supported as it is by the complete analogy of vegetable life, is too strong not to compel belief; though leaving it doubtful to what extent the limitations of localities and species originally existed. Further research may do something towards clearing away these doubts, but can never wholly remove them. The unquestionable changes in climate, and other physical conditions essential to life, from geological revolutions of the earth's surface; and the mighty influence of man, when he became a tenant of the globe, in multiplying, destroying, or transplanting, whatever of the living creation existed around him, have removed many of the marks or outlines which might have denoted this primitive distribution. Fossil geology to a certain extent comes in aid of the research; though in solving some questions it evokes others not less difficult. In the vast periods of time through which it carries us, we see the same revolutions of surface, elevations, depressions, and changes of land and sea; but the further we recede from our own time into these depths of ages, the more entirely do we lose all analogies of geographical distribution. "Even in some of our most recent strata," as Professor Owen remarks, "fossils occur for which we must seek the representatives in America; and to match the mammalian remains from Oolite, we must bring specimens from the Antipodes."

In treating of these various questions, which have relation to Life as the subject of modern science, we have only partially alluded to that

branch of the inquiry denoted by the special term of Animal Physiology—the history of those organs and functions through which vitality receives and maintains its individual existence. This subject, in truth, is too vast in outline as well as details, and the discussions it embraces too various and important, to be dealt with in any single article, even exclusively thus directed. The functions of nutrition and assimilation,—of circulation and respiration,—of secretion and excretion,—and of the nervous system in its many parts—all these have been the objects of refined experiment and sedulous observation by the physiologists and physicians of our day; and with results which give a new face and form to this branch of science. But while putting aside the subject generally (or it may be reserving it for some future occasion), there is one class of the functions just named which we cannot wholly omit when treating of physical science in its relation to vital phenomena. We mean those wonderful functions which are fulfilled through the instrumentality of the nervous system, and which we cannot err in describing as of far higher interest than any others of the animal economy; seeing that they connect the *conscious being*, whatever its grade in creation, with every part of its own organization and with the world without. Sensations in all their forms, volitions in all their acts, find transmission solely through this portion of structure;—one so little intelligible to the eye or outward observation, that not a single anatomist or philosopher of antiquity placed a right interpretation on its nature and uses. Modern science has encountered the subject with the better appliances of experimental inquiry and sound induction; and though much remains to be done, and much more may be deemed wholly unattainable, yet we can safely affirm that some of its greatest achievements are to be found in the anatomy and physiology of the nervous system.

Into the details of these discoveries we cannot enter. They relate chiefly to that organization and distribution of nervous matter (including the Brain as an integral portion of it) through which the power is generated and transmitted in fulfilment of the various functions of life: and, yet further, to the especial relation between the several parts of the nervous system and their different functions; whether such as appertain to animal life appropriately, or those more purely of organic

kind. This latter distinction in itself may be deemed a recent discovery, and one prolific in curious and instructive results; as, in truth, are all those relations which connect particular parts of the nervous structure with the offices they fulfil. Every step in these researches opens out new views to the speculative eye, and offers new problems for experiment and reason to resolve. The successive and successful labors of Bichat, Bell, Magendie, and other eminent physiologists, thus directed, have been more recently extended and surpassed by those of Brown Sequard; to whose subtle powers of anatomical inquiry, still actively employed, we owe some of the most interesting discoveries in this part of animal physiology.

Among these various topics, there is one question so closely allied to some we have been discussing, that it cannot fitly be put aside. Is there any special physical agent, acting in and through the nervous system, and by such action giving fulfilment to its numerous offices in the living economy? Or must we look to some mysterious power existing here, apart from matter and the forces acting on matter, as needful to explain the phenomena, and particularly those which connect the nervous system with consciousness and the mental functions? This question, like the analogous one as to a Vital Principle, presses upon us almost as a necessity of thought. As in so many other cases, language has sought to evade the difficulty of solution by phrases more or less convenient for use, but which indicate no new or real knowledge acquired. We have the terms of nervous *power*, *principle*, *energy*, and *element*, *nerve force*, *innervation*, etc.; all preferable, doubtless, to the older phrase of *nervous fluid*; but preferable simply because less definite in their meaning and assumption.

To the question stated above, science has yet rendered no certain answer; but there are several presumptions favoring the view that some physical agent—analogue to, if not the same as, the natural forces of which we have so often spoken—does directly minister to the functions of the nervous system. One of these presumptions is founded on that conception of *quantity*, which is forced upon us in every consideration of nervous power, and is expressed equally by excess or deficiency in amount. We exhaust energy by action; we augment it again by time and rest.

Scarcely can we name a function of life which does not include the fact of a power applied to it, thus varying in degree.\* Whether we can apply the term *intensity*, as separate from quantity, is more doubtful; for though the distinction is valid, as applied to electrical action, we have no sufficient evidence to give it the force of an argument here. A much more cogent presumption to our purpose is that furnished by *time* as an element in action through nerves. This very interesting fact of a *rate of motion*, already conjectured and vaguely estimated, has been recently attested by the beautiful experiments of Helmholtz on the crural nerves of the frog, giving the result of a space of somewhat more than *eighty* feet passed through in a second of time. To subsequent observations of M. Helmholtz we owe the further remarkable facts that the rate of motion of the nervous power in Man is about two hundred feet in a second, or more than double that observed in the frog; and that it sensibly *augments* with any augmentation of animal temperature. These experiments are so delicate in apparatus and manipulation, that few can undertake them; but their principle is one which in skilful hands may hereafter illustrate some of those variations and anomalies of nervous power which at present perplex all our reasoning. Meanwhile the fact ascertained of the propagation of power in definite time, brings us at once to the conception of a physical force, like those which act on matter through its molecular structure elsewhere in the natural world. And this presumption is strongly enforced when we come to consider the actual and intimate relation of these forces, and of electricity especially, to the functions and phenomena of the nervous system.

At this point, however, a serious doubt suggests itself. Can these functions, so diverse in nature and quality as well as in degree, be due to any *single agent* of motion and power? Can we possibly predicate *unity* of any proximate cause, in actions which combine the functions of the several senses; voluntary and involuntary muscular contractions; the nervous influence directed to the various secret-

\* This consideration of *quantity*, as an element of the nervous force—expressed both by excess and deficiency, in health and in disease—has not, we think, been sufficiently regarded by physiologists or medical writers. We find it explicitly discussed by Sir H. Holland, in a chapter of his volume on Mental Physiology.



ing organs; and the sympathies between different organs, which John Hunter well describes as the "internuncial office" of the nervous system? This question will be at once seen as of great, perhaps insuperable, difficulty. As we cannot multiply agents to meet the many conditions just stated, or find adequate explanation of them in any structural differences of the conducting nerves, we can only approach a solution by looking to the diversities of organization upon which the nervous force acts; and by presuming, as indeed we are compelled to do, that these diversities are often of a nature to evade the most subtle research. The chemist and the microscope have disclosed to us many marvellous secrets of molecular aggregation; but they have rarely, if ever, been able to tell us of that ultimate structure, which at once defines and fulfils the various functions of life.

We have spoken of Electricity as the physical power most nearly allied, as far as we yet know, to that acting through the nervous system. We are not propounding here one of the many vague hypotheses to which electricity, from its striking and complex phenomena, has given birth; but what is a legitimate inference from the most exact and delicate experiments. These, while leaving the fact of identity still unproved, and many collateral questions yet unresolved, have nevertheless disclosed such analogies and intimate relations, as to make it probable that the forces in question are at least *mutually convertible*, in the sense we have already given to this phrase. Had we space for it, we might relate some of those wonderful results derived from the experiments of Du Bois Reymond and Matteucci, which most especially favor this interpretation. We may merely mention, as being perhaps more cogent in its conclusions than any other, the experiment we have ourselves seen; where a simple but sudden and forcible contraction, *by will*, of the muscles of the fore-arm, evolves a current of electricity capable of passing through two or three miles of a helix coil, and thereby creating power enough to deflect the needle of a delicate galvanometer  $50^{\circ}$  or  $60^{\circ}$  or  $70^{\circ}$ , according to the vigor of the muscular contraction. The inference here seems direct and decisive; and it corresponds

with the conclusions drawn from other beautiful experiments of Du Bois Reymond, on the direction of the electrical currents pervading all muscular fibres, so *uniform* in character as to assume at once the conditions of a new law. Yet we are still short of that certainty which science is rigid in requiring. We have reason to believe all muscular action—perhaps every vital action—to be attended with some chemical change in the parts concerned; and every chemical change, as we know, produces disturbance of the electrical equilibrium. Changes of temperature, moreover, or molecular motions, each incidental to muscular contraction, may be concerned in evolving these electrical currents. But whatever are the ambiguities of this question, it is obvious that they all lie within that single circle which comprehends and connects the great Correlated Physical Forces of the universe;—a *magical circle*, we may well call it, since it comprises within itself some of the most profound and mysterious problems which human reason can venture to approach.

We must here come to a close; although there are still many topics which we might bring before our readers, illustrating the efforts and results of modern science in relation to this great subject of Life on the earth. It will have been noticed how often the question of Final Causes comes before us, as a consequence, and even integral part, of these inquiries. We have already alluded to this point; but cannot conclude without reverting once more to a principle of reasoning which it is of signal importance should be rightly appreciated in the interpretations it affords. A misplaced sophistry, fortifying itself by a single phrase of Lord Bacon's of doubtful meaning, has sought to impugn this method, and the conclusions thence derived. It cannot be done. Such reasoning is an integral necessity of our mental constitution. The fallacy lies here, as so often elsewhere, in imputing to the use of the faculty what belongs to abuse; since, if using that caution which the nature of the subject inculcates, we may safely and profitably employ it as a guide in research, as well as an exponent of discovery, in every part of the great domain of created life.

From The Literary Gazette.

*Recollections of my Literary Life.* By Mary Russell Mitford. Bentley.

MISS MITFORD will always hold her rank as one of the most pleasant and elegant writers of a passing school. In her time literature was more dilettante than it is at present, and authors had fewer missions, fewer specialities, less earnestness, and no thought of a vocation. They wrote, in general, more because authorship was held to be a graceful kind of accomplishment, than because their souls were oppressed with thoughts that demanded utterance, or because they held doctrines which it seemed to them to be their life's first duty to promulgate. They were still under the smooth influence of Addison and his time; thinking more of the manner than the matter, and supremely careful of proprieties of diction and the harmonious flow of concluding periods. They had neither the ruggedness nor the strength, neither the bold assertion nor the human advocacy of their literary successors. They sought to please, not to preach—to win admiration for their grace, not adherence to their cause. But they answered, and answer still, to a certain need of the mind; and will always find readers and admirers; giving as they do, much pure intellectual beauty, and many sweet and graceful fancies. The mistake was in supposing such literature to be the living literature of a nation, or in believing that man could live on pretty fancies only, with nothing more solid than a fresh rural syllabub, or a chaste whipped cream.

Miss Mitford's first book was that most charming idyll, "Our Village," where the scent of the fresh-mown hay lingers on every page, and where the men and women are living rustics, yet with the idealizing sheen of the summer sun upon them. There are no Corydons or Strephons in "Our Village," no operative shepherdesses with Swiss hats all on one side, no life of Arcadian love and innocence, to fret our sense of truth and to belie our own experience. They are actual human beings, and may be met with in any well-taught hamlet of the country; but it must be confessed that they always wear their Sunday clothes, and are forever on their best behaviour. Dear Miss Mitford's gentle heart and feminine hand could never have probed or traced the coarser truths of rural life. "Our Village" and the Government Blue-books on

Crime, Education, and the Dwellings of the Poor, are both sadly serious phases of the same thing; but both are real in their way, only the one washes off all the dirt with scented soap, or throws away the work-a-day rags for the Sunday best, and the other puts the fact of a possible washtub out of sight altogether, and does not allow that the clothes-press holds any holiday suit at all. Still, we repeat it Miss Mitford's rustics are human and English; and we are thankful for the loving charity that sketched them in such gentle friendliness of mood. What her earliest work was to portraiture and story, that is her latest—"Recollections of my Literary Life"—to literary gossip. One can easily trace the same hand and the same mind in both, though the subjects have nothing whatever in common, and so many years have swept between the two productions. The present volume is a new edition; adorned with a portrait of the kind, mild, thoughtful face, with the clear, large eyes and benevolent but somewhat sad mouth, that all who knew her will so easily recognize. "Recollections of my Literary Life" is simply a collection of papers or essays; now telling of some journey, and gossiping pleasantly on all the great names and associations connected with the locality; now criticizing some poet with generous extracts from the most popular and the least known alike. These extracts are always well chosen and full of grace; bound together by a running commentary of genial praise, and altogether forming a most charming handy book of beautiful thoughts. Several stories, not generally known, are cast in; as that terrible murder of Sir John Goodere by his brother, the Captain of the Ruby, both uncles of Foote: and there are hosts of happy reminiscences of her own young life—of her bright-natured father whose spoiled darling she was, and of the gentler, graver mother whose memory passed into a kind of family saint, canonized by love and admiration. Then, there are a few kindly words and discriminating praises for any young author that came within the limited sphere of her later life: and she is forward in pointing out the power and genius of American writers. She was intimate with some of our first men: with some who were in their zenith when she was still callow and unformed, and with others on whom the light of early manhood had just begun to shine when the shadows of night

were stealing over her. She had, too, rather a wide acquaintance among the "unrecognized" of literature; the men with their one poem, the women with their one tale; which every one in a certain section knows by heart, but no one out of that section has ever heard of. It is extraordinary how many such there are clinging to the skirts of the literary world of whom it is devoutly believed that they might if they would, sway the destinies of empires, but who are silent from wisdom, and whose inaction is the god-like repose of strength. Many of these are gathered into her "Recollections," and chronicled amongst those whom she most admires; and it must be confessed that generally she justifies her praises by her quotations; for all that authors and book are perhaps equally unknown to the public. Calm and uneventful as was Miss Mitford's outer life, she did not escape her full share of trials. Her mother was an heiress, ten years older than her father, and possessed of twenty-eight thousand pounds, besides certain landed property. Two hundred a year only was settled on herself. Her husband ran through the rest in course of time; alienated a rich cousin who had made her his heir; abandoned a field of practice just as it was becoming lucrative, and, in fine, wrought for his own overthrow as diligently as good-natured, reckless, expensive men so often do. He had a chance of redemption given him. When Mary was a little girl of ten years old she

won a lottery prize of twenty thousand pounds. In a few years the only representative of that prize was a Wedgwood dinner-service which Mr. Mitford gave her to commemorate the event. In later years Miss Mitford supported and tended her father with most heroic love and fortitude: and of all the good that may be said of her, in nothing does her character shine more highly than in her womanly devotedness to the life which should have cared for and supported hers. Looked at from this point of view, Miss Mitford was out of the sphere of ordinary criticism.

It is impossible to give any clear account of this present work. As she herself says in the preface—it is "desultory and wayward," with "far too much of personal gossip and of local scene-painting for the grave pretension of critical essays, and far too much of criticism and extract for any thing approaching in the slightest degree to a autobiography." It is a charming, disconnected series of independent sketches; one of those books without beginning, middle, or end, which you may read for a day or for an hour, at your will; open it where you like, and leave off where you like; always sure to find "your place" again; or something that will do quite as well. We are glad to see it re-issued in its present form; for few names breathe more delicate perception of grace and beauty, or are associated with pleasanter memories of womanly heroism and love, than that of Mary Russell Mitford.

**WIFE AND WOLF.**—In France, the Society for the Protection of Animals does not enjoy that popular respect which it deserves; the small wits of the capital indulging in endless jokes at its expense. The last joke is to this effect:—A countryman, armed with an immense club, presents himself before the president of the society, and claims the first prize. He is asked to describe the act of humanity on which he founds his claim. "I saved the life of a wolf," replies the countryman: "I might easily have killed him with this bludgeon," and he swings his weapon in the air, to the intense discomfort of the president. "But where was this wolf?" inquires the latter, "what had he done to you?" "He had just devoured my wife," is the reply. The president reflects an instant, and then says, "My friend, I am of opinion that you have been sufficiently rewarded."

ALTHOUGH not strictly what the *Spectator* has usually understood by "Publications," it may be mentioned that a new journal is started in Paris, under the title of *Le Memorial Diplomatique*. It originates in the opinion (which some Englishmen may dissent from) that secrecy in diplomacy has passed away, and that now "les gouvernements négocient au grand jour." Therefore the originators of *Le Memorial* propose to devote themselves specially "à l'étude des questions internationales," on the basis of the treaty of Paris, as superseding the Holy Alliance, and in the interests of peace and progress. Papers and correspondence on diplomatic subjects will not, however, constitute the sole topics of the new journal. Literary, theatrical, social, industrial, and financial questions will be noticed.—*Spectator*,

From Chambers's Journal.

"PICKETS" VS. BULLETS.

THE old regulation musket, known in the army by the affectionate *sobriquet* of "Brown Bess," would sometimes, though not always, carry a bullet with a certain degree of precision about a hundred yards; but beyond that very moderate distance, no one, however expert, could make sure of hitting even a barn-door; the aim of the individual who pulled the trigger, supposing that the state of his nerves permitted him to take aim at all—which a very distinguished general not very long since deceased, declared to be not invariably the case—having very little to do with the direction taken by the projectile. On momentous occasions, when it was important that shots should not be thrown away, the old instructions were: "Reserve your fire, my lads, till you can see the whites of the fellows' eyes; then aim low, and blaze away as fast as you can." That is, nobody thought of doing much execution except at very close quarters; but like Moliere's physician, *nous avons change tout cela*; and science has furnished us with a musket with which we may begin to blaze away at our adversaries almost as soon as we can see that they *are* adversaries, and with which a good shot may almost make sure of sending a "picket" to its mark at something like a thousand yards. The modern picket, therefore—which is the American name for a Minié rifle-ball—is a very much more formidable missile than the old-fashioned bullet; but, whatever may be its advantages over its predecessor as to accuracy of flight, length of range, and penetrating power, there is one disadvantage attending the general employment of the rifled musket from which it is fired. It is not sufficient to substitute for Brown Bess a superior description of firearm; but in order to enable our soldiers to use their weapons with effect, careful training and much practice are requisite, so that the instructing of a recruit is a much more complicated affair than it used to be. We have lately had an opportunity of seeing a great many men trained to the use of the new arm; and it may interest the reader to learn something of the process by which the lad who has perhaps never fired a shot in his life, is converted into a more or less skilful rifleman. There are certain moral results, too, which may be expected to flow from the substitution of a scientifically con-

structed weapon for the clumsy Brown Bess, and which it is by no means uninteresting to note.

In the first place, then, it is necessary that the future marksman should be taught to judge, with a considerable degree of accuracy, the distance he is from the object he is to fire at; for, unless he can ascertain that, the new rifle will be scarcely more destructive in his hands than the old musket. The length of range is determined by the degree of elevation; and in order to get this correctly, a sight, the height of which is regulated according to a scale, is fixed in front of the lock; but it is obvious that the true distance must be known before the "sight" can be properly adjusted, and nothing but practice can enable a man to ascertain this by the eye alone. To some it may appear difficult to teach men to judge, within a comparatively few yards, how far they are from an object placed at from one to nine hundred yards from them; and this, too, under every variety of circumstance, such as differences of level in the size and position of the intervening and surrounding objects, and, above all, in various atmospheric conditions, and amount of light; but if we reflect with what accuracy we habitually judge of such short distances or lengths, in yards, feet, and inches, as those with which we commonly have to do, we shall readily believe that, with practice, the eye may be taught to serve us as faithfully even when it is a question as to scores and hundreds of yards; and experience shows this to be the case. There are, of course, some thick-skulled, non-observing fellows who can never be made to guess their distances correctly; but most of the men soon acquire a considerable facility in so doing, and in practice, it must be remembered that it is not necessary that every man should be quick at it; for a few sharp-eyed lads will leaven a whole lump of stupidity, and enable every one to adjust the sight of his piece with sufficient accuracy.

Instruction in judging distances is managed in this way: The class is drawn up on some open space of ground, and two or more of their number are sent on with a red flag, the men being made to face in the contrary direction to that in which the flag is being carried, so that they shall not be able to count steps, or in any other irregular manner assist themselves in forming a judgment of the distance traversed, which must be decided by



the eye alone. As soon as the bearers of the red flag stop, the class faces about, and the sergeant, standing six or seven paces in front of his men, so as to be out of hearing, calls out each man separately, and asks him how far he thinks he is from it. His answer is put against his name in a book ruled for the purpose, and when all have guessed, the true distance is ascertained by measurement—every man getting so many marks or points set down to him, according to the accuracy of his answer—that is, provided he guesses within a certain number of yards of the truth; for unless he does so, he gets no point at all. If the men are out judging distances for the first time, the differences of opinion will be very wide, private Murphy perhaps thinking that he is full five hundred yards from the object that private Milligan, with great pretension to exactness declares to be no more than three hundred and twenty-five yards distant; but after a few mornings' practice, Brown and Jones, Murphy and Milligan, come to see things much more in the same light, and their differences are reduced to a small number of yards. In short, most men soon manage to get the number of points they should obtain before being passed on to a more advanced class of students in the art of shooting with the Enfield rifle.

But besides being taught to judge distances, the men have another course of instruction to undergo, before they are put into the first class for ball-practice at the target. They must be taught the principles on which accuracy of aim depends with the peculiar weapon they are to use. For this purpose, stands—something like the stands used to support an engineer's level or the camera of the photographer—are set up at different distances from the target; and the learner, resting his musket on one of these, adjusts the aim to the best of his judgment. It is so contrived that the piece will remain on the stand as pointed, so that the instructor can show the pupil any error that he may have made, and can make him change the aim either horizontally or vertically as the case requires. When he has been made to level his musket with tolerable accuracy in this way, the pupil is ready to commence firing at the target in the first class; that is, among those who are to fire at a distance of from one hundred up to three hundred yards. The Enfield rifle being sighted to nine hundred yards, three

classes have been established for practice—namely, of those in the first class, who fire from one hundred to three hundred yards; of those in the second class, firing from three hundred up to six hundred yards; and of those in the third class, who fire from six hundred to nine hundred yards; every man being obliged to obtain so many points in the first class before he can pass into the second, and in the second before he can pass to the third. As soon as he has obtained the required number of points in the last class, his course of instruction is complete. All that teaching can do for him has been done, and, unless he be one of those unfortunate mortals, born fumblers, and totally without manual dexterity, he is probably an average marksman. Only a decided genius for the thing will make him a really good shot.

Ball-practice is thus regulated. The class is drawn up in a line, a sergeant standing by with book and pencil, as when the men are being made to judge distances. At the word each man steps forward in succession, delivers his fire, and, accordingly as he has made a good, bad, or middling shot, gets good or bad marks set against his name in the register of the firing. If he misses the target altogether no signal is made by the marker at the butt, and he gets a "miss" put against his name; but if he makes a hit, the marker signals by different flags whether the hit is an "outer"—that is, outside the outer ring—a "centre"—or within the outer ring—or a bull's eye. An outer counts one point; a centre, two; and a bull's-eye, three. It will be proper to observe that the width of the target employed varies in proportion to the distance from which the practice is carried on. No change, however, is made in the height of the target, that remaining always about the height of a man. At first, one target, two feet wide by six high—about the size of one man—is used, and several of these targets are placed side by side as the distance becomes greater. At nine hundred yards, eight targets are employed, representing a front of about eight men, and the bull's-eye is made four feet in diameter. Nor at such a distance as half a mile is a bull's-eye of that diameter by any means easy to hit; for it is obvious that the smallest deviation from the correct line of sight becomes of immense importance when prolonged through such a distance as that. Moreover, the effect of the wind on the flight of the ball, at

these long ranges, is found to be very great. A sergeant—who, as we had many opportunities of observing, is a capital shot—assured us, that when firing at the nine hundred yards' range during a high wind, he found his first ball driven nearly fourteen feet out of the correct course. In his subsequent shots, he allowed that much in his aim, and then succeeded in hitting the bull's eye several times running.

For the first few hundred yards, the Enfield rifle is fired standing, like the old musket; but at greater distances, it is better to kneel if the object fired at is placed on the same level, or the great elevation given to the piece would require it to be held too low on the shoulder for steadiness. In order to shoot well kneeling, the shooter should plant himself firmly on the right heel, rest his left elbow on his left knee, and so get a capital rest for his piece in his left hand. Another mode of getting a steady aim, particularly when there is much wind—but one which can of course only be adopted under peculiar circumstances, is to lie at full length on the back, with one's "feet to the foe" or target. The muzzle of the rifle rests on the toes of the right foot, the butt is pressed to the right thigh by the left hand, which is brought across the stomach, and the trigger is pulled as usual by the right hand, the head being raised three or four inches from the ground in order to take aim. Excellent shots are generally made in this curious position, and it may be very advantageously adopted by the sharp-shooter who wishes to be particularly careful of his own person, as well as to make good shots. A sod a few inches thick is a complete rampart to a man lying on his back, and he could not well be hit by any thing but a chance shell, for he would not expose his head and shoulders even when in the act of firing, as he must do in a greater or less degree if he lay on his stomach.

In ordinary light infantry skirmishing, the men are extended to the right and left in pairs at about a dozen paces apart. One man fires his piece, and stepping a pace or two aside, reloads, while his companion advances before him, and fires in his turn, and so on—each man alternately advancing to fire and reloading, so long as the forward movement lasts, the "retiring" being conducted on precisely the same principles. Now, even this drill is carried on with ball-cartridge, so that

some idea may be formed of the effect likely to be produced by well-trained men in this kind of fighting, when armed with our improved weapons. Ten or a dozen single targets, of the usual size—two feet wide by six high—are placed in a line, with the proper intervals between them, thus representing a line of the enemy's skirmishers; and a party of men, extended in pairs as above described, fire at them with ball-cartridge, advancing and retiring as if in the presence of an enemy. The men we saw at this light-infantry drill were a party of about twenty of the Royal Engineers, armed with the Lancaster rifle, which is considered to be a better weapon even than the Enfield; but the number of misses compared with the hits, even under these favorable circumstances plainly showed how much the difficulty of taking a correct aim is increased by this constant shifting of one's ground. Clearly, in the good old days of Brown Bess, skirmishing in this fashion could not have been very destructive to life. At four hundred yards, the hits were very few; but as the line of skirmishers advanced, they of course became more frequent, until, at one hundred or one hundred and fifty yards, there were more hits than misses. In determining the average number of shots which may be expected to take effect, however, we must take into consideration a circumstance which would assuredly exercise a strong perturbing influence. If the targets were armed with Enfield or Lancaster rifles, and were returning picket for picket, the aim would certainly not be so accurate. Soldiers soon become something given to fatalism; and where bullets are singing and whizzing about their ears, they are enabled to take things all the more coolly if they have some faith in the doctrine that "every bullet has its billet." Without impugning any one's courage, then, we may be permitted to believe that many more bullets are billeted for the bull's eye, whatever that may chance to be, when they are all flying in one direction. But besides this element of disturbance, there is another difficulty which must be taken into account in the calculation. When one party is skirmishing, the other party is skirmishing too; so that the difficulty of making a good shot is increased by the motion of the object fired at; and this element must be allowed for before we can calculate, from the results of target-practice, the probable percentage of hits.

Perhaps the most striking result of the Enfield rifle-firing—at least to us—was the effect of a volley, or rather series of volleys, fired by twenty men at ten targets, placed close together at three hundred yards' distance. The balls pattered like hail upon the iron targets; and it was clear that many a gallant fellow in future will "lose the number of his mess" before he is near enough to the foe to see the white of his eyes.

But the change from the hap-hazard, load-and-fire-as-fast-as-you-can system of shooting with Brown Bess, to the skilful handling of the rifled musket, can hardly fail to have a very desirable effect on the *morale* of the soldier. The elaborate training the men now undergo and the emulation excited among them, must have a considerable effect on their character and habits; and therefore, even in an educational point of view, we gain largely by the improvement in our weapons of war. No one can doubt that this will be the case who passes a few hours watching a class at target-practice, and has observed how lively an interest the men take in the work, particularly when compared with the bored look of the same men engaged in field-drill. For the first time since the days when powder and ball superseded the national bow and arrow, the English soldier has some employment connected with his profession in which he can take an interest, irrespective of mere drill; in which all but hopeless noodles—every day less commonly found among army recruits as elsewhere—are soon perfect: and which, if persisted in too unremittingly, more than any one thing disgusts the soldier with his calling. If no other advantage resulted from the relegation of Brown Bess to the United Service Museum, and other depots of military curiosities, we should be amply compensated for the increased cost of the superior description of musket, and the extra expense of the ammunition required for practice. Any stinginess, indeed, in this latter item—ammuni-

tion—will necessarily interfere with the progress made by the men as marksmen, and will very materially diminish the other advantages to be derived from the reformation in musketry. Enthusiasm must not be cramped by the denial of a cartridge.

It is well known that in those regiments in which such sports as cricket and foot-ball are encouraged, the men are both more healthy and better conducted than in those in which the men are accustomed to seek recreation in the public-house alone. Target-practice, therefore, may be easily made a pastime as well as a duty: and the men will take to it as willingly as Swiss peasants to practice at the village butt, or as idle fellows to spar-row and pigeon shooting. We must expect to find black sheep in every flock, and therefore it is not surprising that some men grumble at the extra trouble and time demanded by so much ball-practice; but generally speaking, they appear to take an interest in what they are about, which is quite refreshing to behold: and do their best not only to win the prizes offered to the best shots, but to surpass their comrades—the "chaffing" which constantly goes on at the expense of the bad shots; being in itself sufficient proof of the interest excited. The rewards for good shooting are considerable, reference being had to the moderate scale of a soldier's pay. A penny, twopence, threepence, or fourpence per day extra pay, may be obtained by the most expert marksmen in the company or regiment: and a more chivalrous feeling is appealed to by the giving of a decoration to the best shot, in the shape of a pair of crossed muskets worked in gold embroidery on the sleeve and cap of the prizemen. This extra pay, and this honorable mark—as we understand—the marksman retains for a certain period, and then must win them anew, or, like the holder of Dockett's badge amongst the watermen, yield them up to the better shot.

M. PRIORRY shows that in some cases of defective respiration, enlargement of the heart, and congestion of the liver, a simple and beneficial remedy is to be found in deep inspirations filling the lungs full of air several times a day. In a

paper published at Paris, he enters at length into the rationale of the question; but we have only space to notice the essential point of his theory, which at all events, may be adopted without danger.—*Chambers's Journal*.

## TIME'S BOOK.

As Time one day by me did pass,  
Through a large dusky glasse  
He held, I chanc'd to look,  
And spied his curious Book  
Of past days, where sad Heav'n did shed  
A mourning light upon the dead.

Many disordered lives I saw,  
And foul records which thaw  
My kinde eyes still, but in  
A fair, white page of thin  
And ev'n, smooth lines, like the Sun's rays,  
Thy name was writ, and all thy days.

O bright and happy Kalendar!  
Where youth shines like a star  
All pearl'd with tears, and may  
Teach age the *Holy way*;

Where through thick pangs, high agonies,  
Faith into life breaks, and death dies.

As some meek night-piece which day quails,  
To candle-light unveils:  
So by one beamy line  
From thy bright lamp did shine

In the same page thy humble grave,  
Set with green herbs, glad hopes and brave.

Here slept my thought's dear mark! which dust  
Seem'd to devour like rust;  
But dust, I did observe,  
By hiding doth preserve;

As we for long and sure recruits,  
Candy with sugar our choice fruits.

O calm and sacred bed, where lies  
In death's dark mysteries  
A beauty far more bright  
Than the noon's cloudless light;

For whose dry dust green branches bud,  
And robes are bleach'd in the *Lamb's* blood.

Sleep, happy ashes! blessed sleep!  
While haplesse I still weep;  
Weep that I have outliv'd  
My life, and unreliev'd

Must, soul-lesse shadow, so live on,  
Though life be dead, and my joys gone.

—Henry Vaughan.

## THE KINGDOM OF GOD.

I SAY to thee, do thou repeat  
To the first man thou mayest meet,  
In lane, highway, or open street,

That he, and we, and all men move  
Under a canopy of love,  
As broad as the blue sky above;

That doubt and trouble, fear and pain,  
And anguish, all are shadows vain;  
That death itself shall not remain;

That weary deserts we may tread,  
A dreary labyrinth may thread,  
Through dark ways underground be led.

Yet if we will one Guide obey,  
The dreariest path, the darkest way,  
Shall issue out in heavenly day.

And we, on divers shores now cast,  
Shall meet, our perilous voyage past,  
All in our Father's house at last.

And ere thou leave him, say thou this  
Yet one word more: They only miss  
The winning of that final bliss,

Who will not count it true that love—  
Blessing, not cursing—rules above,  
And that in it we live and move.

And one thing further make him know—  
That to believe these things are so,  
This firm faith never to forego:

Despite of all which seems at strife  
With blessing, all with curses rife—  
That this is blessing, this is *life*.

—Trench.

## EASTER DAY.

Thou, whose sad heart and weeping head lies  
low,

Whose cloudy brest cold damps invade,  
Who never feel'st the sun, nor smooth'st thy  
brow,

But sitt'st oppressed in the shade,  
Awake! awake!

And in his Resurrection partake,  
Who on this day, that thou might'st rise  
as He,

Rose up, and cancell'd two deaths due to  
thee.

Awake! awake! and, like the sun, disperse  
All mists that would usurp this day;  
Where are thy Palmes, thy branches, and thy  
verse?

*Hosanna!* heark! why doest thou stay?  
Arise! arise!

And with his healing blood anoint thine eyes,  
Thy inward eyes; his blood will cure thy  
mind,

Whose spittle only could restore the blind.  
—Henry Vaughan.

## THE LAW OF LOVE.

2 KINGS, 4: 3.

Pour forth the oil,—pour boldly forth;  
It will not fail, until  
Thou fallest vessels to provide  
Which it may largely fill.

Make channels for the streams of love,  
Where they may broadly run;  
And love has everflowing streams,  
To fill them every one.

But if at any time we cease  
Such channels to provide,  
The very founts of love for us  
Will soon be parched and dried.

For we must share, if we would keep  
That blessing from above;  
Ceasing to give, we cease to have;—  
Such is the law of love.

—R. C. Trench.



From Blackwood's Magazine.

## THE FIELD OF TOWTON MOOR.

SOME eighteen miles southwest of the city of York, a few scattered cottages form a hamlet called Towton. The country in the neighborhood is characterized by a succession of gently undulating eminences.

The ridge of hill next to Towton was occupied by the Lancastrians, March 29, 1461. The opposite, and more southern ridge, was occupied by the Yorkists, commanded by Edward IV. in person. The space between the summits of the two lines of hill is not so great as that of the field of Waterloo; but as the traveller surveys the ground, he is led, almost involuntarily, to compare the position of the Yorkists with that of Napoleon at La Belle Alliance, and the position of the Lancastrians with that of the Duke of Wellington on the heights of Mont St. Jean. A high-road runs through the centre of either battlefield.

On the morning of Palm-Sunday, 1461—for both battles were fought on a Sunday—a thick, heavy, cold snow-storm, springing up from the south, drove, sharp, cuttings, and blinding, right into the faces of the Lancastrians. (It rained nearly all day during the battle of Waterloo.) The Lancastrians could take no aim against an adversary whom they could not see; but their own ranks, meanwhile, were being fast thinned by the bolt and the arrow. They therefore rushed to charge the Yorkists on their own ground; and so, hand-to-hand, along the whole line of either army, the bloody battle of Towton was fought, during the whole of that Sabbath-day. Some thirty-seven thousand of the bravest and noblest of the children of England fell on that disastrous field. No quarter had been given at the battle lately fought at Wakefield, where the ruffian Clifford murdered the innocent Rutland, and the princely Duke of York was killed; and now Edward, on the field of Towton, commanded that no quarter should be given. This savage order was executed with frightful exactness and ferocity. Lord Dacre, and some others who fell, lie in the neighboring churchyard of Saxton, the parish in which the hamlet of Towton is situated; but the main mass of the slain were buried in heaps on the field.

When, or by what hand planted, or how they came, is not known, but in the field where

the bones of the brave thus repose, white and red roses grow in great abundance. They are the small wild Scotch rose. The owner of the field has repeatedly tried to get rid of them by burning and mowing, but in vain; they still spring up again. According to popular belief, these roses will not bear transplanting, but refuse to grow on any soil except that consecrated by the remains of those valiant men, who there fell the victims of a senseless national quarrel. Who would wish to disturb or disprove so touching, beautiful, and poetical a legend?

*Αἶμα ῥόδον τικτεῖ νιφάδες δὲ τὰς ἀνθεμα λευκά.*

Oh, the red and the white Rose, as all the kingdom knows,

Were emblems of the foes in a sad and bloody work;

When old England's noblest blood was poured out in a flood,

To quench the burning feud of Lancaster and York.

For then the rival Roses, worn by the rival houses,

The poor distracted nation into rage and frenzy drove—

Tore the children from the mother, tore the sister from the brother,

And the broken-hearted lover from the lady of his love:

When the Percys, Veres, and Nevilles, left their castle-halls and revels,

To rush like raging devils into the deadly fight; And loyalty and reason were confounded by the treason

That cast into a prison the King of yesternight.

Oh, the red and the white Rose, upon Towton Moor it grows,

And red and white it blows upon that swarthe for evermore—

In memorial of the slaughter when the red blood ran like water,

And the victors gave no quarter in the flight from Towton Moor:

When the banners gay were beaming, and the steel cuirasses gleaming,

And the martial music streaming o'er that wide and lonely heath;

And many a heart was beating that dreamed not of retreating,

Which, ere the sun was setting, lay still and cold in death:

When the snow that fell at morning lay as a type and warning,

All stained and streaked with crimson, like the roses white and red,

And filled each thirsty furrow with its token of the sorrow

That waited for many a morrow through the mansions of the dead.

Now for twice two hundred years, when the  
month of March appears,  
All unchecked by plough or shears spring the  
roses red and white;  
Nor can the hand of mortal close the subter-  
ranean portal  
That gives to life immortal these emblems of  
the fight.  
And as if they were enchanted, not a flower  
may be transplanted  
From those fatal precincts, haunted by the  
spirits of the slain;

For howe'er the root you cherish, it shall fade  
away and perish  
When removed beyond the marish of Towton's  
gory plain.  
But old Britannia now wears a rose upon her  
brow,  
That, blushing still, doth glow like the Queen  
of all her race—  
The Rose that blooms victorious, and, ever  
bright and glorious,  
Shall continue to reign o'er us in mercy, love,  
and grace. R—.

**THE PRECESSION OF THE EQUINOXES.**—M. Poinso, the distinguished member of the Institute, and celebrated for the discovery of the theory of couples in mechanics, has recently solved an important problem, which has baffled the ingenuity of mathematicians since the time of Newton. It is well known that the intersections of the terrestrial equator with the ecliptic, called the equinoxes, never occur twice at the same point, but that every year they appear to recede by about 50·18 seconds. This retrograde motion is called the "precession of the equinoxes." To explain this motion by the theory of universal gravitation became an important problem at the time when Newton made that great discovery. He himself attempted an explanation of it; but the imperfect state of astronomy at that period deprived him of the advantage of certain data which were indispensable to arrive at the desired solution. In 1747, Bradley, by a series of laborious observations, patiently continued for the space of twenty years, at length ascertained that the earth's axis had a peculiar swinging motion, of which no astronomer before him had even suspected the existence; and this motion he called "nutation." He also proved that this nutation, which causes the axis of the earth to describe in space a sort of fluted cone, having a base of an elliptical form, but modified by certain minute undulations, about one thousand four hundred in number, was closely connected with the motion of precession. D'Alembert then took up the problem, and in 1749 published a solution of it, which indeed accounts for the above motions in a general way, but is far from sufficient to explain the cause of those singular undulations which the pole of the earth describes. The delicacy of the question will be easily understood from the fact that within the compass of the earth the axis appears to have no motion at all, and that the phenomenon of nutation is only perceptible at an immeasurable distance in the heavens. We now come to M. Poinso's admirable solution, founded on his well-known theory of couples. Neglecting all useless con-

siderations that had embarrassed his predecessors, he proves by mathematical calculations, which considering the difficulty of the problem, have the merit of extraordinary simplicity, that by the law of gravitation the earth's axis must describe an oscillation of 1·08 seconds in virtue of the attraction of the sun, and 16·9 seconds in virtue of that of the moon, or about 18 seconds in all, in the course of nine years and three months, after which a similar oscillation takes place in the contrary direction. This quantity of 18 seconds all but exactly coincides with the results of observation; and his determination of the precession is equally exact, since he finds it to be 50·4 seconds. It must be borne in mind that observation always has a great advantage over calculation in astronomy, since it gives facts as they are, while in calculation it is often necessary to reject certain small quantities which stand in the way of integration. M. Poinso also proves a singular fact; viz., that the precession would be the same if the earth, instead of being a solid spheroid, were hollow, or if its mass or volume were changed, provided its momentum of inertia remain the same. Thus all D'Alembert's complicated speculations touching the influence of the sea, the nature of the strata of the earth, etc., turn out to be useless. M. Poinso demonstrates various other theorems connected with the subject, but which are too abstruse to be mentioned here.—*Critic*.

M. OZANAM has been trying experiments with diluted vapor of prussic acid, showing that diluted and in moderate doses, it produces a species of anaesthesia. But a very slight increase of strength causes immediate death, and were it not for the microscope, death without any signs of poisoning; with this instrument, however, there is discoverable a rupture of the minute nerve tubules which sufficiently betrays the fatal cause. In cases where the effect is alarming, but short of actual death, the remedy is oxygen; respiration of oxygen until the last trace of the acid is eliminated.—*Chambers's Journal*.

From Chambers's Journal.

## THE UNHIRED SERVANT.

My father was a linen-merchant of the city of London, and one of the thousands whom the introduction of the power-loom, and the consequent influx of cotton goods, brought to inevitable failure. He was an old man at the time; and though I do not think it broke his heart, he lived only to see his affairs wound up, paid all his creditors to the last shilling, and died; leaving my mother and me with no resource but to sell our furniture, remove from our convenient old house in Cheapside, where he had carried on business, and we had lived as the best merchants' families did in those days, to find a humbler habitation, and work for our living. We had no relations who could help us; my mother had never been strong, and was verging on fifty but she was a woman of sense and spirit, who would not sit down and lament over her misfortunes, without trying what could be done. I was the only child, then in my nineteenth year, and pretty well qualified to act as governess; but neither my mother nor I could make up our minds to part; and it seemed like a god-send when Mr. Buckells, the auctioneer who sold our furniture, called to say that Lord Yarmouth was advertising for a respectable person to take charge of a country-seat he had in County Norfolk. My mother immediately offered her services, and was accepted. His lordship's man of business arranged every thing at his office in Chancery Lane. She was to have fifty pounds a year, besides board and residence for herself and me at Fenham Aall, as they called the country-seat. The lawyer said it was rather lonely, and Mrs. Weston would be the better for her daughter's company; but one clause in the agreement rather surprised us—namely, that the situation was not to be given up sooner than two years.

"It is strange," said my mother; "but we want a home, and cannot afford to be particular." So she signed the agreement, bought some necessaries, and we set out for Lord Yarmouth's seat in Norfolk.

It was towards the end of September; the weather was unusually cold and cloudy for the season, and there seemed every probability of an early winter as we journeyed northward by stage-coach and post-chaise—for railways were yet undreamed of. A greater change from Cheapside could not be well im-

agined than our new residence. It was a large manor-house, and looked as if it had been built in pieces. There was every variety of architecture, from the early English to the latest Stuart. The oldest part, or northern wing had been a priory before the reformation, and had still a monastic look about it; but the whole formed a strong, solid, and lordly mansion, situated on one of those long stretches of level land so frequent in the east of Norfolk; twelve miles from Norwich, three from the village of Fenham, and surrounded by an extensive park with giant trees, thick underwood, and game enough to give the whole House of Commons a week's shooting. The gardens and shrubberies, in design and extent, were worthy of the mansion; they had been laid out in the old-English style, and were tolerably well kept, though somewhat overgrown, as if the care and taste of an owner had been long wanting. There was a lawn in front so large that it looked like a broad strip of meadow-land, bounded by a lake which went deep into the wood, and was frequented by innumerable water-fowl. A carriage-road, shaded by great oaks, skirted the lake, and led to the grand entrance; but the grass was growing thickly about the steps, and the hall-door and bay-windows looked long shut up. There was a noble gallery of pictures, and suites of splendid rooms within, all richly furnished, but in an antiquated fashion. Little of the furniture was newer than Queen Anne's time, and most of it belonged to a much earlier period. I remember chambers hung with real arras, Persian carpets, and cabinets which the Dutch traders brought from Japan in the middle of the seventeenth century, with warrants for the same in Dutch and Latin duly deposited in their drawers. So much old china never came within my vision, nor do I recollect to have seen such fine specimens of those old-world instruments, the dulcimer and harpsichord. The library was filled with the fathers, the schoolmen, and works of Catholic theology. The gallery had family portraits in every variety of costume, from knights in plate-armor to ladies in sacks and high-heeled shoes; but the greater number of them were not of the Yarmouth line—they were all Hartwells—and more melancholy, disappointed faces I never saw; but the strangest thing in that gallery was a magnificently gilt frame hanging opposite the central door with

no picture in it. All the house was shut, but not locked up. My mother and I had free access to all its rooms and passages—and they were many—of all shapes and sizes, with no lack of private stairs, side-doors, and very strong closets. Moreover, there was nobody but ourselves on the premises; and the only person in charge when we arrived was Ralph Fairbrother—a man who acted in the double capacity of steward and gardener.

Ralph's hair was perfectly gray, but he was still strong and active—a middle-sized man, with a thin, muscular frame, a remarkably sober look, and a reserved, taciturn disposition. His dwelling was a large and very comfortable cottage, standing in a shady hollow where the park and gardens met, and managed by his only daughter, Nelly; a young woman who was deaf and dumb, but industrious, tidy, and apparently intelligent.

His wife looked twenty years older than himself, and lived, whether from choice or necessity, in her bed, I could never be sure, for the good woman showed no signs of disease, and could get up with surprising activity when it suited her pleasure. Ralph was supreme over all the outdoor concerns of the hall. He employed and dismissed laborers by his own authority; and judging from their style of living, which was by no means economical, his services were liberally rewarded. But Mrs. Fairbrother was supreme over him; and it was generally believed that whatever he said or did was under her special direction. She was a tall, wrinkled, sour-looking dame, possessed of such an idea of her own consequence, that she despised her husband, her daughter, in short, the whole Fairbrother race; and had an extraordinary dislike to the proprietors of the hall, past and present, speaking of them all in a contemptuously familiar fashion, so different from the usual tone of family dependents, that my mother doubted her sanity; particularly on one occasion, when she gave us to understand that she ought to have been Lady Yarmouth. Mrs. Fairbrother was sane enough, however, and willing enough also to tell the complete history of Fenham Hall, and how it came into the Yarmouth Family—which, by the way, was a curious illustration of what men will do for the lands and rentals they must leave so soon.

The original owners were the before-mentioned Hartwells, a line of squires who traced

their pedigree far above the Norman Conquest, to one of the roving chiefs of Denmark, said to have won lands from the Norfolk Saxons, turned Christian, and built a priory some time in the ninth century. That priory, with all its lands, his descendants got back at the Reformation, of which they were zealous supporters, made it their house, and went on enlarging hall and estate, getting rich by marriages, and keeping clear of public difficulties, till about the year 1745, when the young squire, Richard, being the last of the male line, not only turned Catholic, but got so deeply involved with the Pretender, that he was obliged to take refuge on the continent. The sentence of attainder for high treason was passed against him and his posterity; and the Yarmouth family having some influence with the government, came into possession as next of kin. They were distant relations of the Hartwells, and greatly impoverished at the time. The then Lord Yarmouth and Squire Richard had been college-companions at Oxford. The former was far-sighted, keen, and cunning; the latter was weak, vain, and credulous; and the story went that young Hartwell's conversion in religion and politics had been more than abetted by his crafty companion, who thus obtained his hall and lands. The Yarmouths had kept them for almost half a century. The wily lord had been duly succeeded by his son and grandson. Squire Richard's claims had been also transmitted, by his marriage with a French lady, distantly related to the House of Turenne. He left a daughter, who, in her turn, married a Scotch gentleman, one of the Frasers, with whom she returned to Britain, where a daughter was born to them. Mrs. Fraser was a woman of uncommon spirit, as became her maternal descent. With the help of certain papers left by her father, and the aid of her husband's relations, she commenced a suit to reverse the attainder and recover the estate for her child. Parliament was petitioned, the ministers were dealt with, the law-lords were engaged, and there was every probability of success, when the young Lord Yarmouth, who had just reached his majority, and was said to bear a strong resemblance to his grandfather, proposed to settle the business by marrying the heiress of the Hartwells, and thus uniting forever the rival claims. Their wedding was celebrated with great splendor and rejoicing. Miss



Fraser was just seventeen, beautiful, and accomplished: but two years after her marriage, she eloped with an obscure adventurer, who called himself Captain Fitzwilliam; and all that was ever heard of her afterwards, was, that she had died in great poverty in the old city of Padua, where the captain left her. Lord Yarmouth's marriage was of course dissolved by act of parliament, after bringing an action, and being duly awarded damages. He formed a more advantageous alliance with a ducal house, and had a son and heir to succeed him; but his second lady and he had separated by mutual consent, his son was borrowing money from Jews on post-obits, and none of the family had slept two nights at Fenham Hall for twenty years.

Nothing could induce Mrs. Fairbrother to attempt any explanation of the latter fact, beyond a decided shake of her head. At that point she always returned to the Hartwell line, with whose sins and sorrows the gardener's lady seemed particularly well acquainted. There was a younger brother who had pushed his elder into the lake as they played beside it, and ran home to tell that he was heir. There was a squire who had killed his Jew creditor, buried him in the park, and never had rest with his hounds tearing up the grave. There was a lady who had given her squire cause of jealousy with a handsome cousin; the pair were believed to have eloped from a Shrovetide merry-making; the squire went abroad, leaving his heir and lands to the care of a faithful steward, and died fighting in the Low Countries; but years after, two skeletons were found locked up in a deep and long-disused wine-cellar. Moreover, a strain of wild and violent insanity had come down their generations, whether from the roving Dane or with the Fenham priory and lands, Mrs. Fairbrother could not certify; but there was a strong room in the northern wing of the hall with grated windows and an iron-bound door, where she insisted that three-and-twenty heirs, heiresses, and owners of the Hartwell domains, closed their lives under the care of keepers.

The Fenham villagers supplemented this bronicle with Mrs. Fairbrother's own antecedents. Curious enough, they all entertained the very same dislike to her which she exhibited for the owners of the hall. Their inviolable account was, that the gardener's wife knew all about poor Lady Yarmouth, as they

called the unlucky first countess; for she was her maid at the time, and had been well paid by my lord, or somebody; Ralph Fairbrother got three hundred pounds and that fine place by marrying her, though he had been wild in his youth, run away to sea, and come back as poor as a church-mouse. Notwithstanding these reminiscences of his early days and doings, Ralph's sway over them was almost boundless. They were altogether a set of country laborers—the only trades-people being the landlord of the ale-house, who was also chandler and draper to the entire village; and an old tailor, and his wife, who did all the needle-work. I cannot say whether or not the schoolmaster's travels have now extended to Fenham; but at the time of my story, a more uncultivated, uncivil, and ill-mannered set of cottagers were not to be found in the eastern counties. Neither day nor Sunday school had ever been within their bounds, to my knowledge. Nobody but the before-mentioned landlord could either write or read, and *his* skill in those useful arts was rather limited. The parish church was six miles distant. Its incumbent and his curate agreed that they could do no good in Fenham, and there was probably some truth in that opinion. Besides ignorance and more than common stupidity, the inhabitants were one and all animated with a spirit of blunt and vulgar independence, which made all dealings with them disagreeable, and all attempts at improvement fruitless. Every family had a cottage and a field or so, on which they existed in a savage, slovenly manner—man and woman half idle, when they were not employed about the hall; and as Ralph could get no laborers but themselves, he and they carried on a kind of intermitting warfare, always grumbling at each other, and often breaking out into open hostility.

My mother and I had a sad time of it, endeavoring to get a maid-of-all-work among them. Whatever servants had been at the hall, they were all discharged and gone before our arrival. The apartments assigned us were situated in the northern wing, which, under the Yarmouth domination, had been mostly appropriated to domestic purposes. They consisted of six neat though queerly shaped rooms, opening on a short corridor, which had a side-entrance from what was called the evergreen shrubbery, a grove of box, laurel, and holly, growing up almost to

the windows. My mother's parlor, with my bedroom and hers opening from it, was on one side; on the other, our kitchen, with rooms for stores and a servant—the whole forming a comfortable, convenient little residence in a corner of that great house, which lay around us all shut up and silent, with its vast rooms and rich old-fashioned furniture. Our home had been fitted up expressly for a resident housekeeper some fifteen years before. Several staid and discreet ladies had come from Suffolk, Lincolnshire, and all the northern counties to inhabit it; but none of them had stayed for a second winter, and the honest people of Fenham assured us that neither should we. "For them mad Hartwells was always a coming back."

The tailor's wife, who was the most civilized of the community, and had sewed for the hall forty years at least, declared it to be her private opinion that those unearthly visitors had considerably increased since the poor lady's business, which was not to be wondered at, as she was one of the old stock—the rightful heiress, if all tales were true; and people did say my lord had not been in the dark about her going off with that captain; but he and Mrs. Fairbrother knew best. They had taken her picture out of the frame in the gallery, to keep the new servants from knowing her, in case she was ever seen; and my lord being a saving man, meant to put his second lady into it; but it was of no use, for the family could not stay.

These were encouraging details for two ladies, fresh from London city, to hear regarding the old country-house in which they were bound to live at least two years. My mother had a deal of strong sense, however, and I think she taught me some of it. We had in common a good life, a good conscience, and a tolerable education. There are no better ramparts against superstitious fears, and they stood us in good stead, notwithstanding the reputation of the place, the strange echoes which the large, empty house gave back to every sound, the wonderful howling of the wind in its turret chimneys, and the shadows cast by its old trees. We never got thoroughly frightened, nor met with any thing out of the common course, except the transaction I am about to relate.

When Lord Yarmouth's lawyer admitted that the hall was solitary, he certainly did not overstep the truth. There was not a house

within sight of it but the gardener's cottage, which was a good quarter of a mile off; yet neither theft nor robbery had been attempted; partly because it was generally known that there was nothing but old furniture in the mansion—his lordship having removed his plate and all portable goods of value; and partly owing to the popular belief in the returning Hartwells. That article of faith stood sadly in our way with the before-mentioned maid. No woman of any age would consent to sleep at the hall. We were obliged to dispense with their services early in the evening, that they might get home before it grew dark, and could not expect them earlier than about twelve next day. I employ the plural number, because in our first season, we had on an average a new servant every fortnight. Some were so desperately dirty that they could not be retained on any terms; others broke every thing that came in their way. One almost set the place on fire; a second accommodated herself with my mother's tabinet gown, and went to church in it on a wet Sunday; a third dropped our entire stock of china on the stone-floor of the kitchen, and fled home, declaring she had seen three of the Hartwells looking in at the window. After that tale was made public, we could get no servant at all. The want would not have been great had ourselves only been concerned; I could have done all our household work. Ralph Fairbrother supplied us with all manner of provisions, according to contract; but the hall and its furniture were to be kept in order, and that was a task beyond our united strength.

In this strait, my mother thought of applying to an acquaintance of ours in Norwich, one of the few with whom we corresponded in spite of altered fortunes. She was a merchant's wife, a notable housekeeper, and a most worthy woman. Her reply was decidedly satisfactory. She knew a housemaid, steady, honest, industrious, and not afraid of a solitary place. If my mother and I would only come to Norwich, spend a day with her, and see the girl, she might go back with us to the hall, in case we thought her suitable. Mrs. Turner's invitation was kind, and the chance of seeing civilized life, though but for a day, was too good to be missed. We went to the old capital of Norfolkshire in a spring-cart, the only vehicle obtainable. My mother had a great chat about old times; I saw the newest fashions; the maid was seen and arranged with, but

there were unexpected difficulties in the way of her immediate coming. The girl looked strong, active, and not too young; she had a good-humored face, professed no fear of ghosts and had a sort of acquaintance with Fenham Hall; her grandmother, mother, and two aunts, having been housemaids there in regular succession. The no-popery cry was then loud, in consequence of the Catholic Emancipation Bill; but my mother had no dread of the Jesuits, and showed no unwillingness to engage Sally Steen, though she was a sound believer in the old faith, and retired, as it were, to service in the convent of the Sisters of Mercy, whenever she was out of place. The lady-superior was somehow related to Sally, on the mother's side, where, it seems, there was high and ancient blood to boast; but though the Catholicism and the convent had no terrors for us, we were disappointed in our hope of bringing home a useful servant. Sally's brother was to be married that day-week; she had promised to be at the wedding; beside her things were to be put in order. In short, Sally could not come for at least eight days. Still, there was the prospect of a maid at last. Mrs. Turner gave her the highest character—by the way, she had once served our friend for six months—and we went home, after settling with Sally to come by the Fenham carrier's wagon, and enter on her duties at the hall on Monday week.

The evening in which she was expected, found us talking and knitting by the fire. The night had fallen, for it was about the middle of December; but the weather had been clear and frosty for some days, and we could see the moonlight silvering our windows, over which the curtains had not been drawn, as my mother said the blaze would cheer Sally's heart coming up the lonely park, and guide her to our corner of the mansion. We were comforting ourselves with the rubbing-up the fire-irons, stoves, and large mahogany tables should get from her vigorous arms, as also on the peace and pleasure we should have with a good-humored, trustworthy servant for the rest of the winter. Our tea-table was spread, and our teakettle singing to welcome Sally when she came in cold and tired from her journey in the wagon. There it was at last; we heard the heavy wheels roll slowly up the carriage-road; the carrier knew how to open the park-gate, luckily, for no keeper

had lived at the lodge for years. I went out with a lantern, and there they were—trusty Thomson, the carrier, with all manner of parcels for us and the Fairbrothers; Sally, with her gray cloak and hood drawn over her bonnet her large deal-box, and a bundle under her arm. Thomson was in a hurry with goods for the village innkeeper; the box, etc., had to be got in quickly. Sally was sometime getting herself in order to pay her respects to my mother; but at length, in she came. There were two candles and a bright fire, and all their light was requisite to make us credit our own eyes. Instead of the ruddy, robust, good-natured looking young woman under thirty, with whom we had talked at Norwich, there walked into the parlor very deliberately, a woman whose age I could not tell, but she was not young, tall, larged-boned and thin to the point of reminding one of a skeleton. She had on a coarse, gray gown, of plain stuff, a muslin cap plaited closely round her face, which might have been handsome once, for the features were finely cut and regular, but it was long and thin beyond expression; there was no color about it, but a streak or two of intensely black hair, straggling on the forehead, which, by the way, was broad and low, and a fixed corpse-like expression, such as I remembered to have seen in the face of one of the exiled monks of La Trappe at Spitalfields.

Her tone of voice was at once shrill and hollow, and she did not waste her time with many words; it was merely: "Good-evening," and she was sorry to be so late, but the wagon had been long on the road. Neither of us could speak for some minutes, and I saw there was terror as well as surprise in my mother's face; but she recovered her composure, told Sally she was in very good time, asked her some questions about her brother's wedding, and our friend Mrs. Turner, which the woman answered quite satisfactorily, and sent her to have her tea comfortably by the kitchen-fire.

"Is that the woman we engaged, Sophy?" she said, as soon as the door was shut.

"I don't think it is, mother."

"Neither do I; but what brings her here? and how can she answer so readily? Could seeing her by night and day make such a difference?"

We tried to persuade ourselves of that; but both went to bed with a queer, uncon-

fortable feeling; and my mother looked as if her dreams had been troubled next morning. Moreover, the daylight did not make Sally a whit more like the girl we engaged in Norwich. Her face kept the same stony look we had observed overnight. She went about her work willingly, and like one used to it, but without word or smile or sign of cheerful activity. My mother's questions, remarks, and observations elicited no evidence against her identity; but seeing is believing—she was not the woman we had seen at Mrs. Turner's. The hall had always been a dreary residence, and this strange servant did not add to its cheerfulness. Why she had come, troubled us for many a day, but we could make nothing of it; besides, she did her work well, required no watching, seemed to have no dread of the Hartwells on her mind, did not complain of loneliness, did every thing she was told, and was on the whole a valuable, though not a lively, servant. My mother's letter on the altered appearance of our maid seemed to amuse Mrs. Turner. She wrote by return of post, which in Fenham was a weekly occurrence, to say that Sally had been at her house only two hours before she set out with the wagoner, looking just as usual; and for her own part, she could not help thinking that fancy was playing a trick in that old house of ours. Mrs. Turner was above deceit of any kind. There was no probable motive for substitution. The strange-looking woman served us faithfully; so we made up our minds that it must be the veritable Sally Steen, who had come to us from Norwich, and that our eyes and memories had somehow deceived us. One thing was certain—Sally had profited by her residence in the convent. Early and late, she was repeating to herself aves, prayers, and penitential psalms. I caught sight of an iron cross and rosary hung round her neck, and carefully covered by the gray gown, and her devotions were generally prolonged far into the night. My mother had a sincere respect for the faiths and forms in which other souls found comfort. Sally's abundant prayers were no stumbling-block to us, though mostly addressed to the Virgin and St. Mary Magdalene. The household went on well and quietly for some weeks; we had got fairly into the belief that all was right, and were preparing for our lonely Christmas, when a new element was added to the mysteries of Fenham Hall.

I happened to be restless and wakeful one night. It was still frosty weather, with that deep silence in the wintry air which makes sounds distinct, however faint or far off. Everybody had been in bed for hours; I had heard the parlor clock strike two, when somewhere in the large silent house there began a noise as if some one were delving or digging with all their might at very hard ground. I listened as long as my breath would hold; it was not fancy; the digging went on regularly; I could catch the sound of spade or pick coming in contact with stones, and felt sure it was within the hall. I had some courage, though I was not then twenty; my mother had taught me that there was no honor in being easily frightened. My candle was lighted as quietly as possible. Every thing was just as we had left it; the kitchen was dark; so was Sally's room, and its door tightly closed; but the sound of the digging went on, till our poor cat, seeing me invade her nightly solitude, jumped up with a loud mew. Then it suddenly ceased; I listened for some time, walked about my room, at length extinguished the candle, and got into bed, but I heard no more of it for that night.

Two or three mornings after, my mother came to breakfast, looking as if she had not slept well. I had not mentioned the digging to her, meaning to watch and see if fancy had been playing me a trick; but as I poured out the tea, she said, looking firmly at me: "Sophy, did you hear any noise in the house last night?"

Mutual questions and explanations followed, of course. The very same sound which so astonished me had been heard by my mother night after night all the previous week; she, too, had walked about, candle in hand, but could see nothing, and the noise had always ceased when she made any audible movement.

"Shall we speak to Sally?" said I. "Or do you think it would frighten her?"

"No," said my mother. "I think she has something to do with it. Last Wednesday night, I tried her door; it was fast locked, and there was no breathing of any sleeper inside. Our best plan is to watch and say nothing. I have gone over all the rooms, and even the wine-cellars; I have been in Sally's room too, and in the strong room; there is nothing moved, nothing out of place;



but, Sophy, I am sure the noise was in that direction."

The strong room of Mrs. Fairbrother's chronicle was situated immediately behind our kitchen, and could be reached by a private stair leading up from a dark closet at the inner end of the corridor. It was said to have been constructed out of the priory chapel; but except its vaulted roof and the traces of larger windows in its thick walls, there was no appearance of those days about it. The grated windows kept their place, and the iron-barred door; but under the Yarmouth administration it had become a receptacle for the better sorts of lumber—remnants of old armor, dilapidated hunting-gear, pictures damaged by the cleaners, and great chests of family papers. It was one of my amusements in that solitary winter to turn over its curious contents, and wonder what had become of the secret chapel which, according to a tradition preserved by the old people of Fenham, Squire Richard had made for himself somewhere in the hall, and ornamented in a most costly manner when he turned Catholic. There were no relics of the kind in the strong room; but I was poking behind one of the chests a day or two after our talk about Sally, when I came upon a roll of painter's canvas. It was a picture. I drew it up to the window, for the evening light was growing dim, and read that it was the portrait of Madeline Teresse, seventeenth Countess of Yarmouth, painted by Sir Thomas Lawrence.

That was the picture which had been taken out of its frame to keep the servants from knowing the unlucky lady who died so miserably at Padua, in case she thought proper to revisit the hall. I was not very superstitious, but my hair did begin to rise when the waning light showed me the very image of our unaccountable servant. It was younger, richly dressed in a bygone fashion, and had not the fixed, ghastly look; but the resemblance was so striking that I let fall the canvas, and covered my eyes with a fearful conviction that some of the Fenham legends were true.

There was no more poking in the strong room that evening; and after a long debate with myself by our parlor fire, I came to the resolution of telling my mother, and asking her to sit up with me that night.

"We will sit up, Sophy," she said, "and

try to make out the digging business. But you have been frightened by an accidental resemblance. If the dead do ever return to this earth, it must be for some great providential purpose, and not to frighten honest people in the course of their daily duties. Sally is a strange creature, and, I fear, not of sound mind, though she works wisely enough. It is our best policy to watch closely, but not to let her know that we suspect any thing."

We did watch all that night, with candles ready to light at a minute's warning. Sally had been given to understand we had gone to bed as usual, but all the long night there was no sound in the house; and the very next, when we were both worn out and fast asleep, my mother, whose slumbers were much the lightest, was awaked by the delving in full play, which ceased as formerly, the moment she came out with her candle. Night after night it was the same. We sat up and watched till our nerves and our courage failed us, without hearing a sound; yet our deepest sleep was broken by the noise of spade or pick clanking against stones, or delving some stubborn soil. Another strange and rather disagreeable circumstance was, that in spite of all our concealment, Sally appeared to know that we had an eye upon her. She watched us in all times and places, and a fiery look of fierce and frantic anger began to burn in her black eyes.

"What are you spying about me for?" she cried, rushing into the parlor one morning as we sat at breakfast. "What do you get up at night and come out with candles for? There's plenty to make noise about this old house besides me, if all stories are true—and they are true. I have heard them opening the doors, and seen them looking in at the windows. It's a doomed place, an ill-got property, and will never come to good. Leave it, and go back to London as fast as you can."

"Sally," said my mother with great composure, though her lips were white, and her servant's eyes looked terrible, "we do not watch you, but the house, as we are bound to do. If you find it uncomfortable from any cause, I am willing to pay you your wages, and let you leave my service."

"Wages—service!" muttered Sally, growing suddenly cowed and bewildered; and she slunk out of the room, muttering something else which we could not hear.

Our breakfast was not an important affair after that demonstration. We felt that, whatever the strange creature meant, or might be, it was neither safe nor easy for us to remain in the solitary house in her company, and Sally had evidently no intention of going. She went to her work as usual, and as if nothing had happened. Even my mother did not care to speak to her again on the subject; the dread of her had fallen on us both. But something must be done; and after a thousand plans formed and found impracticable, we thought of taking counsel of the Fairbrothers. A kind of mutual repulsion had existed between them and us, from the first. Ralph never came to the hall except when he was wanted; and his lady's airs were not calculated to make one seek her in the back-room where she chose to abide; but they were our only neighbors, and we took an afternoon walk to the cottage on the following day. I would not leave my mother alone with Sally, though she had been wonderfully steady ever since the morning explosion, and the night had passed without noise. We found Mrs. Fairbrother in her accustomed place; she had not been out of bed that winter, and said she did not intend getting up again till May. Ralph had gone to Norwich on his lordship's business; he had no mind but that of his spouse, however, we knew; and after propitiating her with the kindest of inquiries about her health in that trying weather, my mother related our perplexities.

"Sally Steen," said she, turning her face to the wall, and talking as if to herself; "I mind the jade well. She took part with that good-for-nothing creature who went off with the captain." Mrs. Fairbrother always spoke of her former mistress with great contempt. "That was because they were all papists together, and given to the same goings-on. I know it all. It's a digging of her grave she is every night; they do that for penance after uncommon sins; but I'll settle her."

With this reflection, Mrs. Fairbrother got up, took out of her cupboard, hard by her bed, a plum-colored satin gown, made in the height of the short-waisted fashion, a lace-trimmed mantle of the same antiquity, a beaver hat, and a pair of morocco boots, with exceedingly sharp toes. In these she proceeded to array herself with the alacrity of a person bound on some great enterprise, and then desired us to come along, and she would settle Sally Steen on enough.

The first thing I saw as we approached the hall, was Sally standing in the grand entrance. She had opened the great door to its full extent, and was gazing out over lawn and lake through the frosty haze with which the winter-day was closing.

The moment Mrs. Fairbrother caught sight of her, she dashed forward, crying: "I'll bring the jade to her senses;" but the next she stopped short, and stood like one terror-struck; while Sally, clearing the steps with one bound, rushed down upon her, the black eyes glaring like those of a lion, and the hard hands clutching as if to tear her in pieces. The gardener's wife knew her danger, and fled screaming across the lawn, but Sally pursued her. Unable to follow or assist, we stood rooted to the spot. They neared the lake; and on its very edge the frantic woman seized her prey, satin gown and all, and dashed her in; but Mrs. Fairbrother had a grasp on her straggling hair, and in they went together. We saw them plunge and grapple in the deep water, which surged and heaved as if the struggle were still going on below. Our cries at last brought two of the laborers out of the garden; but all was over; neither ever rose again; and the men said the lake was fathoms deep at that part. It was just where the young squire had pushed in his elder brother; and they could do nothing till Ralph came home.

Ralph did come home next morning; the lake was dragged for the bodies, and they were both found with shocking traces of mutual violence on them. There was a coroner's inquest, and a verdict of homicide and insanity. But in the course of the inquiry it came out—we never could ascertain from what quarter—that the woman who had come as our servant was not Sally Steen, but a crazed nun from the convent of the Sisters of Mercy—said to have lived long on the continent, and been given to strange austerities. The establishment could, or would, give no account of her, but that her name was Sister Magdalene, that she had been allowed to reside in their convent for a few months; and that they believed her of unsound mind. The cause of our nightly disturbance was, however, explained by an examination of the room she had occupied in the hall. Behind her bed the thick wall was broken through, and a clear passage opened into the crypt of the ancient chapel, which had been walled up and for-

gotten for ages. Its floor had been dug and delved in every direction, as if somebody had been searching for hidden treasure. Two stone-coffins and half a skeleton were laid bare; but the object of her midnight search had not been found; for a year after, when the place was altered and repaired for young Lord Yarmouth, there was discovered, buried deep in the only corner she had left untouched, a pair of massive candlesticks of solid gold, a large crucifix of the same precious metal, and a complete service of plate for the celebration of Catholic worship. I never learned how the Yarmouth family disposed of them; but it was the general belief that they had been hidden there by Squire Richard's chaplain, when the ruin of the Jacobite cause sent his master into exile, and gave the hall to strangers. The ghastly-looking woman must have known something of this, and entered our service on purpose to search for them, with the connivance of the real Sally Steen. That individual was afterwards known to be at service in London; but neither we nor our friends could ever get a sight of her, nor could we ever

make out who it was that came in her stead. Ralph Fairbrother, who by the way, lamented his wife as little as governed men generally do, had a kind of short-hand explanation of the matter which he would never enlarge—it was, that Mrs. Fairbrother would have been wiser to have stayed in her bed. She thought it was one of the Steens who had served there long ago, and wanted to show her airs; but people did not always die when it was said they did, and that drowning business was just the settling of an old account in his opinion. Whether the Yarmouth family agreed with him or not, they showed a strong inclination to hush up the matter. They paid my mother liberally, and allowed us to leave the hall at the beginning of the new year. We set up our own little home at Paddington, soon after, and got on wonderfully. My mother has left me for the better country, and I have been called Mrs. George Turner these thirty years; but I never hear of a lonely old house in the country without recollecting our unhired servant.

**SUBSCRIBERS TO THE SUEZ CANAL.**—The Suez Canal project of M. De Lesseps is about to assume a practical shape. The four hundred thousand shares into which the capital stock of two hundred million francs (or forty thousand dollars) is divided, have been disposed of, and unless unforeseen obstacles shall interpose, the work of connecting the Mediterranean with the Red Sea, and thus realizing in the East what Columbus sought in the West—a new route to the Indies—will soon be commenced. A recent number of the *Journal de l'Isthme de Suez* contains a statement showing the number of shares subscribed for in various countries, from which we learn that over one-half, or two hundred and seven thousand one hundred and eleven, are held in the French empire, and one hundred and ninety-two thousand eight hundred and eighty-nine in other countries as follows:—

Paris,.....	90,121
The Departments,.....	116,262
Algeria,.....	728—207,111
Turkey (including the subscription of the Viceroy of Egypt),.....	96,537
Austria,.....	51,246
Russia,.....	24,174
Great Britain,.....	5,083
United States,.....	5,000
Spain,.....	4,086

Holland,.....	2,615
Tunis,.....	1,714
Sardinia,.....	1,353
Switzerland,.....	460
Belgium,.....	324
Tuscany,.....	176
The Two Sicilies,.....	97
States of the Church,.....	54
Prussia,.....	15
Denmark,.....	7
Portugal,.....	5
Sweden,.....	1

400,000

It will be seen that five thousand shares, representing five hundred thousand dollars, are held in the United States, an amount nearly equal to that held in England. In the latter country, however, the project has never met much encouragement. It is essentially a French undertaking, and has had its greatest pecuniary success in France; nearly three thousand shares were subscribed for in the cities of Lyons and Marseilles, and in Vincennes an entire regiment of the line subscribed, every man, from the colonel to the drummer, contributing his quota, thus adding over forty thousand francs to the subscription list.

From Household Words.  
HOME AGAIN!

ALL alone in the public room of the house of entertainment known as the Old Rodney Arms. I never felt so dismal in my life. It had been sleeting in this part of the town since yesterday morning the waiter said;—might change to snow that night, or go on with sleet for a week more. On the whole, he rather thought it was as good as set in.

There was nothing to cheer a man in this. There was nothing to cheer one in the room; which was of the penitentiary and silent system order, with its chilling whitewash, sawdust, spittoons, pipes laid saltierwise over the chimney-piece, and other fittings of the true tavern order. Nothing to cheer one in the prospect from the window, of the stable-yard fast turning into a pond; of ducks paddling riotously; of the little heaps of straw floating down the current of thawed sleet; of the poor cur whose house was now being invaded by the flood. Nothing to cheer one in the dripping ostler, exercising his functions on a dripping horse just come in. Nothing in the overcharged spouts, all now dripping, now pouring into the yard. Nothing cheering in all this. Put to it, finally, that he who was so looking from the window of the Old Rodney Arms was an exile newly returned, without a friend in the wide world beyond the captain of the ship that brought him home, and you have as cheerless a picture of solitary wretchedness as need be.

Still sleeting on languidly; but with a purpose that shows it to be in good heart for work—a fitting accompaniment for the high festival now approaching. For this is the vigil of Christmas-eve; and as all the world has learnt in its nursery, Christmas comes but once a-year, and when it comes it brings good cheer. There were famous elements in my case to render this a truly inspiring anniversary;—that is to say, twenty-one hard years in a foreign land, parents dead, wife dead, two elder brothers dropping off one after another, leaving behind them the old family heritage of Mytton Grange, now fallen to me Nicholas Sherburne, last of an old line. No one that knew me as a child left; all gone, scattered, and passed away!

About this time there appeared at the door of the public room the old waiter, muttering something in thin, wheezy accents; the same who had given such doubtful testimony as to

the sleet. There was a sea-captain below, he said, wanting me. No doubt, this was Captain Sharon, of the William Clay (set down, in the bills of the ship's sailing as that well-known and experienced commander), who had appointed to meet me at the Old Rodney Arms; a favorite house of call with gentlemen of his profession. A rough man, and a ready man, this well-known and experienced commander, with his heart in the right place, people said. He entered with a great stamp, bringing in the sleet along with him.

"Hallo, my hearty," says Captain Sharon from afar off; he might have been on his own quarter-deck, speaking through his trumpet. "How is the tide with you now? Heavy-hearted still? Bad, bad to give in to those lows; bad for soul and body. I never knew good come of it."

"I am not in the lows, Captain Sharon," I said, affecting a sort of jollity of manner; "I am getting quite into spirits."

"So best," said Captain Sharon; "I never knew good come of the dumps. Now, what I have to say is this: will you come aboard with me to-night, and bear me company down the river? A good berth and rations accordingly. 'For the ship shall sail and the wind is fair,'" added Captain Sharon, chanting.

"No sooner come home than sent abroad again," I said. "What a queer world this is."

"Aye," said Captain Sharon, "take it as you find it. Will you come? Drop down to-night; and I'll put you ashore to-morrow evening in time for Christmas-day and plum-pudding with your friends."

I laughed bitterly. "Friends! I like that; why, my good Captain, I have not a friend in the world."

Captain Sharon gnawed his under lip reflectively. "I am not going to deny," he said at length, "that this is a poor way for a man to be in. But I tell you plainly, if it was my case, I'd not stay growling in my hammock. I'd get up and work and look about me. And, if I had not a friend in the world," said that well-known and experienced commander, turning quite red in the face, to explode a thumping oath, "I'd go and make 'em."

"Make them?" I said, mechanically.

"Aye, make 'em, and plenty of 'em too. You have money and lands and a great house. Well, I'd go down and fill that great house,—I would—I'd take my hat full of cards and



go round to squire and parson and the whole crew. No friends!" here Captain Sharon laughed scornfully; "you have plenty of 'em at this living instant. I'd take my oath of it."

For a single moment, it struck me there might be some grains of wisdom in what the sea-captain had said; but I looked up at the window and the dull sky, and they were straight washed away in floods of sleet.

"I must go," said the captain, buttoning on his rough coat. "Will you come?—No? Well, you're wiser to my mind for staying. Take to the country and your own fire of a Christmas-day. Good-by." With that the rough and ready man passed out into the sleet.

His was good and well-meant counsel; but such as I was not yet fitted to take home to myself. Still there kept sounding in my ear with a certain melodious clang those rough notes of the captain. Make yourself friends! Ah, 'tis not too late for a Christmas dream and a Christmas hearth, no, 'tis not too late! All that day it went on clanging on, chiming quarter and half-hour, and three quarter bells in my ear to the same tune. The bells of old churches hard by seemed to take up that shape of melody, swinging out that old burden, Make yourself friends! Ah, no, 'tis not too late, no, 'tis not too late! But such things were not for me. The bleak walls and cold desolation of the Old Rodney Arms were fitter, and more in keeping: so I fell back into the old up and down patrol, looking out now and again from the window. The dripping ostler as before; the dripping horse as before; stable-yard fast becoming navigable. Four o'clock being told off by the chimes of the neighboring churches; with which jostle discordantly those other chimes of Captain Sharon's. It was clearing a very little in the west; just beyond the red chimneys, and it suddenly enters into my head to go out and see human faces again, and be set free, for a time at least, from those hateful white walls. With that, I go forth into the sleet, as the captain had done before me, and take the road citywards.

There was a house of business in that quarter to which I had letters, lying up a small, dark court, with its style and calling set out on brass-plates at one side. Inside, it found room for other houses of business, each with its own flight and its own brass-plate. Un-

happily, the chief was absent—a little old man, very gray and shrivelled, being left in charge—gone down for the Christmas by that morning's early mail, to return by that day week at farthest. The little old man, very gray and shrivelled, ventures to presume that I and many more will be going down that night or following morning.

"A very pleasant thing must be that Christmas in the country," he says, looking thoughtfully on the fire, and fitting his thin fingers together. "Very pleasant for such as had means. Very pleasant!"

Would he be going too?

Dear no! dear no! He had not been out of London these forty years back. Most likely never should—never should. Was just about locking up and going out to look at the streets. It was so curious looking at the streets of these nights. People seemed so busy and so happy.

I left him there, still doing joiner's work with his poor lean fingers over the fire, and went back again through those streets he spoke of. The lonely waiter's prophecy had come true; for the sleet had departed, and it now looked very much as if it were about to snow. By this time it had grown dark, and the lamps were lighted. There was a hum of voices abroad, and two floods of dark figures hurrying by, on some purpose bent. Shop windows were throwing out dazzling effulgence, reflected brightly from the many little shining pools and ponds in the road; where, too, were reflected cheerfully flaring lamps and flitting forms. Round certain sheets of effulgence specially—throwing out a glare as from open furnace-doors—were gathered crowds of admiring figures and illuminated faces viewing the huge stores within: the holly within: the white-capped and white-robed attendants within: the dispensing of rare Christmas cheer; and the file of buyers incoming and outgoing. With a far more delighted amphitheatre of glowing faces round certain other sheets of effulgence—temples of confectionary—feasting their eyes on the spreading Christmas-tree and its glittering fruit of gold and silver, card and ribbon: on the huge white cakes rising like towers: on the gaudy vista reflected by mirrors many times over, down towards the far end, of men and women packing busily, fitting the snow cake and Christmas-tree fruit into cases—going down to the country that night.

Where shall that tree be set up? What troop of children, far down in some well-wooded English county, be gladdened at its coming? More glare from open furnace-doors—more glowing faces—more trees—more busy packing. I am jostled by hasty men on Christmas errands. I am put aside by men bearing Christmas packages, and nearly run down by heavy wains laden with strong ales for Christmas drinking. Everybody seems to have Christmas business but my poor, lonely self. Getting absorbed in contending floods, I am taken up through many by-streets into one of the great markets, where gas is flaring nakedly, bringing out gaunt, Rembrandtish effect; where, too is Christmas food in the bulk, raw material of coming cheer in huge massive heaps, of which are there sellers in bulk, and buyers in bulk. Sellers entrenched strongly behind groaning counters and mounds of provision; behind monster poultry suspended high; behind primest joints; all with Christmas purpose. Dark foliage overhead of shining, green-necked birds newly arrived from those richly-wooded counties with Christmas purpose. Flocks of wild birds, armies of great fowl, with Christmas purpose. Buyers gauging monster poultry, appraising the height and depth of their fatness with Christmas purpose. Sellers giving out ceaselessly, taking in ceaselessly, with Christmas purpose. Housewives, hand in pocket, reflectively taking thought of what store they needed; not so much caring for hard-bargains on this eve; thinking, with glistening eye, how little Tom or Jack or Harry, now on his way home, would be gathered round her cheer—whose little hearts would be set a-dancing at this sight. Perhaps, even the dripping ostler, after change of his damp garments, had been up here with Christmas purpose. Groves of holly and ivy with Christmas purpose. Everybody, every thing, with Christmas purpose, beyond myself; who was now wandering utterly purposeless, cut off from any Christmas hope and prospect. Here Captain Sharon's bells fell on to a chiming, chiming out their old tunes, over and over again they rang out: "Make yourself friends! Ah, no! 'tis not too late—no! 'tis not too late. For Christmas dreaming and Christmas hearth, 'tis not too late—no! 'tis not too late!"

Only this time, so furiously so importunately flinging Captain Sharon's music abroad,

that, when I looked on the scene before me; and on all who were going and coming with light hearts under their cloaks, I felt of a sudden an intolerable yearning to be of that happy company. Nor did that possibility seem altogether so hopeless and remote. "Tis not too late—no! 'tis not too late!" clanged the bells riotously. What if I tried? Something seemed to whisper to me, timidly, it could do no harm—perhaps no good, perhaps a little good—and, as the thought came upon me, I found my heart beating faster, and my steps quickening as I hurried along towards home. Such a home as I might find within the bleak walls of the Old Rodney Arms.

I had half made up my mind. With a nervous fluttering, I laid out a sort of programme; a dusky castle in the air. What if I left the Old Rodney Arms far behind me, and fled away through the broad English lands northward—journeying down to Mytton Grange, the ancestral seat of the Sherburnes? I half made up my mind; and, one look at the bleak, whitened walls of the Rodney Arms finished the work. I would go.

As I came to this resolve, the bells of Captain Sharon ceased ringing and were heard no more.

The night mail went down at half-past eight o'clock; and, towards that hour I was on the huge threshold of an iron-way that strikes off north-westerly. Great was the bustle that attended on the departure of that night train. A great clatter, and in-driving and out-driving by different gates, processionally. A dazzling flare of lamps in long lines down the platform, converging to points far away; long lines of pillars; long lines of carriages, first, second, and third, with wagons—all converging, also, to points afar off. Many passengers by this night's mail north-westerly, furnished with hairy rugs against the cold of this Christmas night, with courier-bags hung about them, following their baggage now being trundled along the platform. All mostly going down for the Christmas. Men of business, men of politics, men of law, hurrying down north-westerly for the Christmas.

All through the long and weary darkness the night mail went forward scouring broad counties. All through the long and weary night the dull lamp overhead cast down a sickly light on the travellers sitting opposite me, burrowed in their rugs, with heads sunk

down on their breasts, and coiled up in all manner of strange attitudes, striving after sleep. All through the darkness the night train swept on; swooping through stations; past long lines of flashing offices; past great and dusky towns; past smelting-works, where fire was bursting from the ground; past other night trains swooping by; and past tall chimneys and illuminated factories.

With sensible slackening of pace, and lifting up of drowsy heads from folds of rugs to let down the glass, and look forth on the chilling night outside; with threading our way among dark, shadowy forms of huge black engines hissing and hiding themselves in clouds of their own damp vapor: with flashes of lighthouse reflectors poured into us suddenly, and gone the next instant; with carriages gliding by, with lamps gliding by, with signal-houses gliding by, we roll into a flood of light, reflecting a waste of white wall, glass-doors, with bare counters and empty buffets within—all to the Gregorian chant of porter-monks, intoning loudly, change here for a long bead-roll of places utterly undistinguishable and unknown.

Some respite here for reflection; a yellow light suffusing the white walls; a clock-face which tells it has just gone three; a file of blinking travellers walking to and fro, and the night-mail sets forward once more plunging into Erebus again. There are vacant seats opposite, the drowsy figures having been set down with their rugs at the last halt. Two little boys, in wild spirits, chattering of school sports and coming joys, going homeward for Christmas holidays, are just in for a short stage only; for, when I look up after an uneasy snatch of sleep, I find that they have departed, and that I am alone in the blue-cushioned chamber, under the sickly lamp. By this time day is breaking, with a cold gray that brings out the dark trees flying by; and, looking out, I find the ground all whitened, and that it has been snowing hard, north-westerly. It lightens and lightens and gradually the cold gray fades off. There are long canals below us, ice-bound and unnavigable. There are stray houses of a rude sandstone common to these parts, and we roll into a great red town: a city of factories and tall chimneys, all in broad daylight, just as the hands are going to work. With weary eyes and stiffened limbs I descend, leaving behind me the sickly lamp burning still. A halt here

for some hours in a busy inn; thence northward by another railway. Journeying steadily from noon until close on the stroke of four, we slacken speed; moving across a deep valley on a great viaduct of the rough sandstone. I recognize something familiar in the look of that valley: in the great heavy mountain far off on the right: in the swell and fall of the ground; dim, indistinct memories of boy years, confused by the new staring viaduct that runs so rudely across the smiling valley. A gray mossy tower—part of old abbey ruins—glides slowly by, and I begin to feel that here is something not altogether strange to me.

A lonely wooden station perched high on the arches; with a lonely man in charge, who came out to wonder what business could bring the stranger into this solitary region, and, presently the train had passed on out of the valley, leaving me with the lonely man on his lonely platform. It was nearly dark, and a light or two twinkling below, showed where there was still an inn of the old pattern not yet departed; whither the lonely porter went off silently to order up a chaise for Mytton Grange, distant some six miles. But I found that the old inn was gone long since; and, in its stead, there had risen a cold public-house, with a new sign, and a new proprietor. The only chaise and the only horse were being got out hastily; and, in a few seconds, I was on the road to my old home.

With a tremulous feeling at my heart, I looked from the window for such old landmarks and tokens, as ought to be familiar to me; for the old bridge just clear of the village where we used to fish (standing under its arches on the mossy bank where the trees stretched over, making a bower and giving a pleasant shelter); but the road had taken a sweep, and I was now crossing a fresh, rough-hewn structure, and yonder were the relics of the old bridge—three gray broken arches, all stripped and jagged. But other lesser things were left to us. A good mile further on, the great stone-trough, up the steep hill, where the wagon horses used to halt and drink; the stone-cross over the old-quarry, marking where one dark November night old Joe Bradley, the keeper, was cast down and dashed to pieces; the wooden stile leading to the short cut over the fields to Mytton. Strange memories of those days, kept crowding on me as the way shortened, as the darkness gathered. How would the old place look?

Had it kept the gray, reverend aspect it bore on the day I drove from the door just thirty years before; friends, relatives, retainers, all gathered on the steps under its shadowy porch, watching me speeding away down the long avenue. Never did it seem so beautiful. Its square, central tower, broken into stories, each with its mullioned window and supporting pillars, flanked with great wings, and other square towers; its two open cupolas, each capped with a stone eagle, rising high in the centre, all of a gray, reverend stone. How was it now with its broad court inside? its broad flight of steps seen through the porch, leading up straight to the great banquetting hall? Did the grass grow there now, and were its gray stones disturbed? How was it with its quaint old English gardens, laid out in long lines of yew-tree hedges, shaven smooth and straight as a wall? its broad walks and terraces, its round Dutch ponds and white leaden gods rising from the water, its grotesque sun-dials and devices, and dark, cavernous aisle of ancient yews meeting overhead, through which the sun's rays never penetrated? How was it with all these? Overgrown with weeds and gone to ruin? Questions soon to be resolved, for we were now struggling up the east hill, over a little valley all sunk in darkness, where were lights twinkling, and where lay the manor village of Hurst Mytton, now all wrapped in darkness. I could hear the little stream that coursed through the valley, turning a few rude mills, rippling noisily as of old, just as we swept sharply round a corner and entered the broad, open avenue, a good mile long, leading straight down to Mytton. With beating heart I could see afar off the dark mass, standing out shadowy with the two cupolas outlined on bluish gray ground. Lights were twinkling up and down, and a red glow came through crimson curtains drawn close before the windows of the picture gallery.

In a few seconds more the great pile was looming out over my head, and the driver was on the ground pulling at a bell. It rang out hoarsely, scaring some shrill birds that had their nest overhead. I was standing under shelter of the gray porch looking into the court. From open windows of that picture gallery on the right, was pouring a flood of genial light through a crimson transparency; prospect ineffably comforting to a lone wanderer's heart! I was walking round,

looking up with a strange feeling over me, at the great clock fixed in one of the towers, which used to chime tunes like Dutch Carillons, when the door at the top of the flight of steps opened softly, and an old man with a lamp descended, bowing low to the ground—an old man with spare hair and ivory head. He peered at me curiously with a restless, anxious look, shading the lamp with his hand, and bowing with a certain stateliness. He presumed that I was one of his honor's friends, come down for the Christmas. They had been expecting him long, very long, for a year and more. Perhaps I brought news or letters from him, or perhaps I myself—could it be? Here the lamp was lifted up, and my face searched with wistful inquiry. "True Sherburne face," he muttered. At the same time the cloud of old memories which had been floating round me since I first passed beneath the porch, began to settle steadily down in the shape of a certain retainer who used to take me out far over the fells. "Will Dipchurch," I said hesitatingly. He started.

"Will Dipchurch, the steward, surely. Who knows Will Dipchurch that Will don't know? Let me look again. Can it be that young Mr. Nicholas who went abroad beyond the seas thirty years ago? Can it be?"

"It was," I said, taking his hand in mine, "poor Nicholas Sherburne, the wanderer, come home to end his days."

"I knew the Sherburne voice, the Sherburne face," he said, "so glory to God on this Christmas-eve for bringing you back under your own roof. I dreamt of this. I knew that another Christmas would not go by without some one of the old name being at the Grange again. Come in, sir; come in, for you must be tired after your long, long journey."

I followed him silently up the steps, and crossed the threshold into the banquetting-hall. It was dark, and the lamp gave out a feeble light. But I could feel the chequered marble pavement echoing beneath my feet, and could make out, dimly overhead, the dark oaken gallery where, in old baronial times, musicians used to play. I looked for the famous antlers; spoils of old hunting days, hung up high round the hall, and found them in the old spot. I looked for the helmet over the yawning fireplace where was a heap of red wood ember flickering. I looked for the oak panelling, dark and shining with age,



running round: for the oaken tables, black and shining too, and felt as if I had left but yesterday; for nothing had been disturbed.

"Look up, sir!" said old Will. "See how we have had the place dressed against Christmas—all as it used to be," and he held the lamp up high above his head. It was a wilderness of holly and ivy, and red berries. Bunches of it round the oaken bosses of the ceiling, twining up the mullions of the windows, hiding every knot and twist. All those queer stone faces supporting the oaken arches of the roof, at which, in childish days, I used to glance timidly and with an awful respect, now leered comically out of ruffs and collars of prickly ivy, and the coronas all down the hall were now turned to the likeness of great holly bushes hanging from the ceiling. On sight of which Christmas livery, came the genial spirit of the season invading me tumultuously. The bleak white walls belonging to the Old Rodney Arms, encompassing me close up to that date, began to crumble away slowly.

Said Mr. Dipchurch, half to himself, and letting the light play upon his face with a rare Dutch effect, "I knew this evening would not go over without the master's returning home. I dreamed it three times over the fire. Our garners have been filled, and the strong ale brewed, and the keeper has been over the fells with his gun. And to-morrow the tenantry shall come up for the feast in this hall, as they have done this many a-year; and his honor shall sit in the great chair at the head, as his father did before him. A glad day: I may say, sir, I hope,—a jolly day!"

Mr. Dipchurch passed out with his lamp, I following, and led the way through the ante-room—where the guests always gathered before dinner—into the picture gallery. I stood at the door looking down; for it was a long, long room, running full the breadth of the house: down to the far end, where were drawn, close with heavy folds, those crimson curtains beacon that had shone out so ruddily on the avenue. Lining the sides, hanging out from the walls, where the tall, full-length Sherburnes, men and women for generations back—a roll, chronological of every age. Often had they been read off to me by our ancient housekeeper. I could tell them truly, even now. Beginning with that frowning warrior just at the door, a captain

and admiral at sea, in flowing wig and blue armor, who stands leaning on his truncheon, and pointing back eternally to a cloud. So, too, with that other worthy in the starched frill, doublets, and trunks, who had done good service in the Spanish wars. Next to whom I knew full well (for the black shadows hung over that region) was a peerless lady, one of Kneller's beauties—a shepherdess, in the open country with a crook, and sheep at her feet. And so up that line I could tell them off in their order from where I sat. That famous Sir Ralph, in the Ramilies' wig and scarlet coat, pointing back, like the Admiral, to smoke in the background; he who had given such good account of the French in the Flemish campaigns. With other cavaliers and noble ladies of Sir Joshua's pencilling: all be-hooped, and in rich flowering silks. Half way down, just at the great fireplace, I found an old oak table and high-backed chair of the same spiral pattern drawn in close; where, too, was a shaded lamp, shedding warm, soft light, and reflected on the shining oak floor.

Saying he would return, Mr. Dipchurch passed me by softly; and, taking his way down the long gallery, disappeared in a black shadow which hung over the end. Then I drew in the high-backed chair closer, and stirring up the logs till they cracked again, fell to thinking how strangely it had come about that the wanderer was back again in his old home that night, of all nights in the year: an eve of jubilee to all men—vigil of tidings of great joy—which had brought round at last a sort of dull quiet and repose to one who had strayed much, and for whom there was to be now no more wanderings.

"Just as the hare whom hounds and horns pursue,"

(this was the weary yearning of another poor wanderer, long since gone to his rest)

"Pants to the spot from which at first it flew,

I still had hopes, my long vexations past,

Here to return, and die at home at last,"

Under the shadow of my own roof-tree; given back again to that stately company on the walls. Ghostly company indeed! Cold, fleshless, and bloodless kinsmen: yet all that were left to me in the room of those real living ones who had been taken away one by one! The ghostly company had it nearly all to themselves now, and within a certain span of years were certain to have free, undisturbed range of the old halls. Stiffly and

quaintly they might then come down and walk all day long, and all night long, to and fro, in stately dances, without so much as one to intrude on them. Strange, chilling feeling this, of being utterly wrecked and stranded upon one's own home; of being cast upon a lonely island in one's own house. They were all gone now: father, sisters, brothers—the cheerful, exuberant houseful! filling every corner of the old place with bright, beaming hope,—with youth and spirits and eternal jubilee! But of this season especially, how this brightness of heart burst forth as in a torrent—sweeping with it friends and neighbors, kith and kin—drawing them all in under one roof, to be glad and make merry, and keep the holy festival with more glory than in any other spot on the face of the land!

With the cruellest aching of heart, with an inexpressible yearning, the lonely wanderer returned thinks of that time—separated now from him by gulf ever so wide. Oh! thrice happy days, over which steals the soft, golden light, that hangs round things seen from afar! Most vividly do they come floating back upon me now, as I sit looking into the fire making out the minutest pictures. It is as the mouth of a great arched vault, with a high, glowing mound of wood embers crumbling down with sudden rustle, and taking all manner of fanciful shapes. And yet with every change I make out (oh, so clearly!) small bright figures with faces familiar, and scenes long, long forgotten; but by some mysterious power, evoked on this night, of all nights in the year. Though the clock in the court was now clanging out harshly nine, it did not break in upon these welcome visions; and I still see pictures in the red wood embers.

A crumble and a rustle of the ashes, and they slowly take shape, bringing out elements of one child's Christmas, long enough back now to have been rubbed out of all recollection; with one figure conspicuous; a good, rough squire, heartiest of his kind. Christmas loving, charity giving, beloved of all friends and neighbors. Best of all fathers, with the gentlest, beaming eyes. The truest imaginable picture of the old English squire. To my child's eyes the most benignant, lovable being upon earth. Still more of a superior being at this high festival, in keeping of which worthily he took such delight.

All were to be happy—all light-hearted. The poor fed and clothed; none within a broad

circuit round to have care and sorrow. I see the embers still crumbling and crumbling and settle at last in the fixed shape of one special Christmas season, now good five-and-thirty years removed.

Figures flit past—figures well known and recollected; awful personages to my young eyes. One, in old-fashioned blue coat and bright buttons; top-booted, with a hunting-whip eternally in his hand—Squire Hornby of the Grange. A rough, ready, and agricultural fellow that tramped where he pleased in those great top-boots. A misty vision next, of gloom and awe thrown over young hearts, by feud and terrible strife breaking out between our father and rough Squire Hornby. Fierce looks, fiercer words, angry contention, followed by appeals to law, attended with unspeakable dread for the young people of the house, and all rising out of a petty dispute about a watercourse. Our father's gentle eyes would light up and flash, as pacing up and down the great room of an evening, he would declaim on his wrongs, and vow hostility to his neighbor. He would fight out the watercourse to the death in the courts or anywhere he should choose. If it came to his last shilling, it should go for the watercourse.

We listened with frightened hearts, appalled at this terrible prospect, not being old enough to know that a watercourse or right of way, are objects dearest of all things in the world to country gentlemen's hearts. After Christmas it would come before the proper tribunals. Then father should have justice done him. If not there, he would go on to the House of Lords, and battle it out there. Finally, if beaten at all hands, he would sell every stick in the place (here his voice would grow tremulous) and retire to a foreign land to end his days. His enemy should not have that triumph over him.

It was getting on all the while to his favorite season; which promised to be as frost-bound and snow-clad as festival heart could desire.

Great stores of provisions had been laid in. Father was busy from morning till night in the furthering of that design which always lay nearest to his heart; namely,—that no poor soul in the parish should have a troubled soul at this famous season; but should be filled and made merry, and as warm as plenty of coal and blanketing could make him. Never

was he so busy, so vigorous, so full of the genial, holy spirit of the season. Each day that lessened the distance between him and the great day, lightened this temper of his; until, at last, it came to be the morning of the great eve itself. I see in the red embers figures moving and flitting past indistinctly; genial faces lit up by honest glow, whitest snow covering the ground thickly. I make out that one figure, centre of all, moving hither and thither, rubbing his hands in glee; for there had reached him news that morning from high law authority, that all would turn out well for him in the matter of the watercourse. There was a great jubilee through all the house! most seasonable Christmas present, that horn of news!

That Christmas-eve wore on cheerily, until it came to grow dusk, and lamps were lighted: when I see some one riding up the long, open avenue through the snow; some one to see the Squire, and wish him a merry Christmas, and who mentions as a bit of news, that Neighbor Hornby has that morning heard of the death of his only daughter in a foreign country, and was sunk and bowed down with trouble as much as a man could be. I see on that evening, when the long room is lighted up and the floor so polished that it reflects back the light—I see our dear father come in among us (over to this great fireplace where I now sit looking back into the past), with a little trouble on his face; then he walks about restlessly, talking softly to himself; then stops, and finally goes to his desk. I see him sit down and write hastily—we speaking softly over the fire—and seal the letter with his own great seal; then send it off by a man on horseback. Oh, how I have before me his gentle face, as he comes over again to the fire, rubbing his hands softly, with such a pleased look.

"Do you know," I think I hear him say, in tones that make my heart thrill, "dear children, what was written in that letter?"

"That you were to win the watercourse, papa," says my little sister, gleefully, "and beat that nasty Mr. Hornby."

I see his face twitch a little. "No," he says, gently, "we have done, now, I am afraid with the watercourse—done with it forever. Do you know what I told you this morning of Squire Hornby and his daughter? We are all happy here to-night—oh, so happy!—and shall be happier, please Heaven, to-morrow.

So shall everybody be about us, excepting a poor squire whose house is hung with mourning. Well, to him I have sent the watercourse, as a little Christmas present. Have I done right?" Then he looks round with those ever gentle eyes upon his children.

And here, with sudden rustle, the wood embers sink down, and that picture fades away from me.

I am still the lonely outcast, sitting over the fire with a most intolerable yearning for flesh and blood sympathy which I cannot have now. Oh, for something to cling to! something to hold by—not to be so utterly cast adrift!

The old clock-chimes are again at work, tolling eleven; for a flood of small details have filled up that hour, which seems to have been barely a few minutes. These Christmas anniversaries at the old Hall were rare times; they make my poor heart ache, thinking of them. Stir the logs; cast on a few fresh ones!

Here I am set afloat once more—tided far away, backwards; until I make out clearly other pictures, other figures.

Sent away to sea from the old house, at fourteen, having always a fancy for the naval profession; often, when tossing in my cheerless hammock, when roughly handled, as is the fashion on the ocean, I looked back to those happy Christmas days, with a sickening, despairing feel. Often, when lying in dull idleness off a sickly African coast, the Great Festival has come round and been let to slip by without celebration, I thought how far away, in Mytton Grange, it was being kept with mirth and genial warmth. How about four o'clock, or so, the cold evening was drawing close in, and the daylight departing; and through the snow, which gave light enough of its own, hearty folk were tramping briskly up to the Hall; for whom there were beacons, in the shape of red patches of fire-light up and down the front of the great house, to guide them. Light enough inside, too, in the great hall; where the feast was set out, the grand annual Christmas feast, with the squire at the head of his table, from which not one was absent.

A rustle and collapse of embers, and I am set a-thinking of another scene one year later, when I was still upon the seas; but, on the eve of being temporarily set free. I think of the ardent longing, that eager strain-

ing to span across the broadest tracts of sea and land; of hurried marches; of journeying homeward night and day, with panting, excited spirits, all to the one end, to reach home against the Great Festival. I think of that setting down of feet once more upon English ground; of that furious posting—whip and spur, double gratuities; of that nearing familiar objects, loved landmarks, and finally of the dark building so longed for, standing looming out, with a dark background, but with rows and rows of the old genial crimson light that set my heart a-dancing. Most welcome crunching of wheels upon the frozen snow as we turn up to the porch. I see the gate standing wide open, figures standing close, welcoming faces, with one, gentlest in the world and now radiant as an angel! Then shaking of hands by everybody: by many I know not. Then a sweet mist for the rest of the night; long vistas down great halls; softest suffusion of yellow light playing on more faces crowding in on me. Oh night never to be forgotten! Rather let it sink and be lost in those red embers now once more falling in so suddenly.

How I long for gentle, sympathizing faces, something that can feel for, feel with me! Here about me are the old walls; the old rooms, the long halls just as they were then. Here is the ivy and the holly, and red berries thick overhead, garnishing every corner and cranny, hiding close every projecting bit of oak, of stone; all just as it was then. Here were the garners full to overflowing, as the old steward had told me; the stores laid in, the feast set out. To-morrow would be the famous Christmas morning, come round again. To-morrow the friends and neighbors would come in crowds and fill the great hall, just as of old. There they would sit, far down along the sides of the long tables, bright, happy faces in two rows, all looking to that

place at the head, where the squire was sitting; songs of welcome, glad words,—long life and prosperity to the master, returned at last; the head of the old family. There were good, hearty families living about,—many who had known the old squire (so the steward had told me)—who would be glad to take by the hand, to know and love his last descendant. They abounded, they waited but for a sign; to-morrow would be the glad day. These things were no dreams, no idle fancies; to-morrow they would be realities. Why should I cut myself off from such cheering hopes? There might be some bright days in store for me after all.

Down they had crumbled once more into a white heap of ashes. They were dying out, and with them the night. For, just at that instant, I hear afar off, most faint tinkling as of silver fold-bells, as though there were shepherds then abroad in the fields, keeping watch over their flocks by night. Rising up and going over softly to the windows, I see that the snow has been falling thick upon the ground, and can observe out afar off, beyond the white fields in the direction of Mytton church, a little red speck; by which I know that the ringers are in the belfry, ringing in the Christmas morning. Oh, sweetest, most musical Christmas carols! I take them up with me still sounding in my ears as I go to rest, and fall to sleep, to dream hopefully.

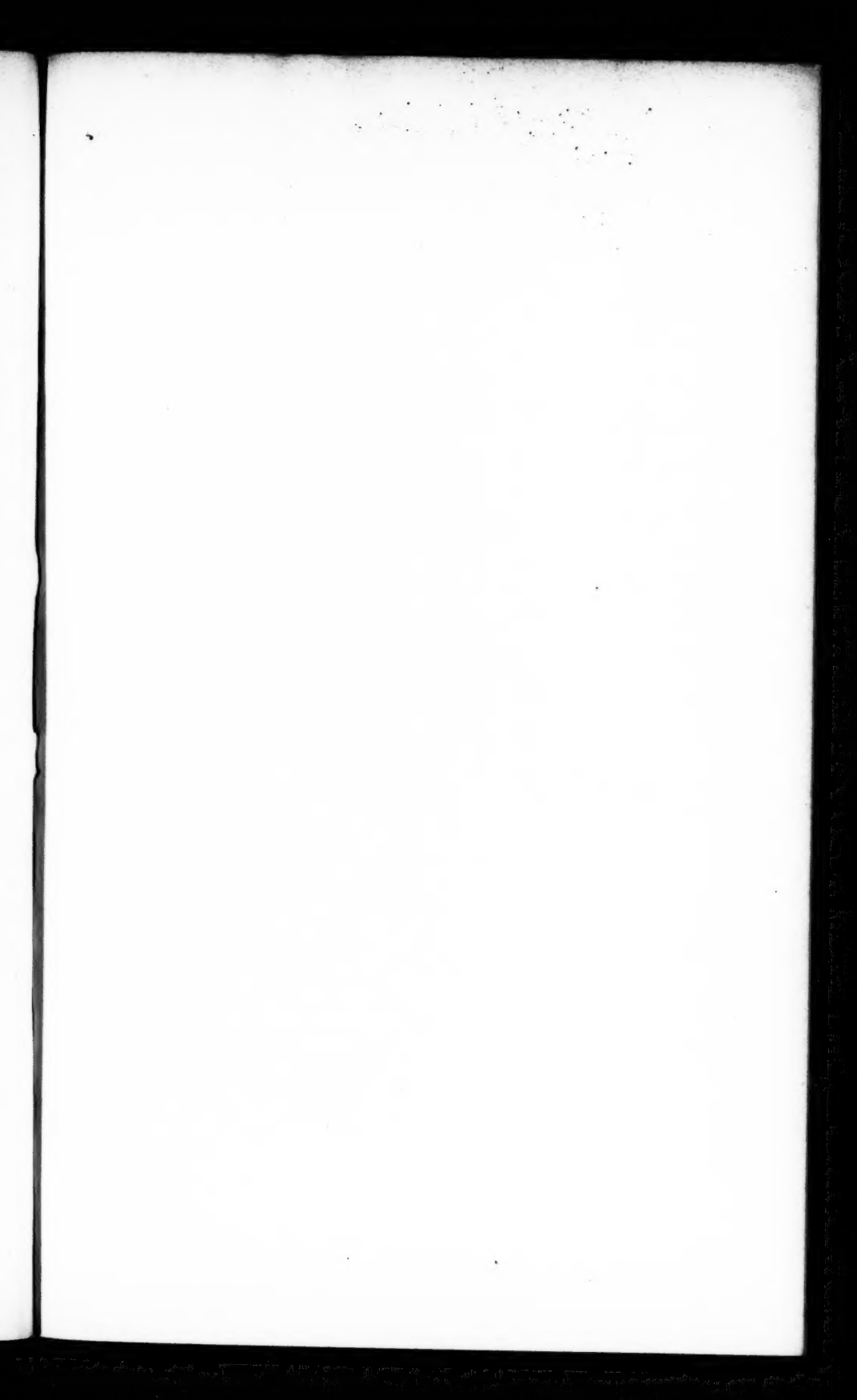
I woke on Christmas morning to the same merry tunes to find my dream realized. Mytton Grange never saw a jollier day. Old Dipchurch had thoroughly preserved its traditional Christmas; for not a tenant, nor a tenant's wife, nor son, nor daughter, was absent; and many a neighbor, whom the busily spread news of the new squire's arrival had reached, came also to give him a right hearty English Welcome Home! If Captain Sharon, and the gray, shrivelled old clerk could only have been with me?

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The Baron de Wolbeck tells of his own knowledge a curious story about the hearts of Louis XIII. and Louis XIV. Taken from St. Denis by Rewbell, they were given to an artist who was to use them in manufacturing colors.

The artist began to do so, but, relenting, he gave them to a royalist who presented them to Louis XVIII. At his decease, and by his direction, they were buried when he was buried in St. Denis.







Henry Hallam

# THE LIVING AGE

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